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LEGISLATIVE COUNCIL
FILE 93-7

AUTHORIZING APPROPRIATIONS, FISCAL YEAR 1974, FOR MILITARY
PROCUREMENT, RESEARCH AND DEVELOPMENT, ACTIVE-DUTY AND
RESERVE STRENGTH, MILITARY TRAINING STUDENT LOADS, AND
FOR OTHER PURPOSES

JULY 18, 1973.—Committed to the Committee of the Whole House on the State of
the Union and ordered to be printed

Mr. HÉBERT, from the Committee on Armed Services,
submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 9286]

The Committee on Armed Services, to whom was referred the bill (H.R. 9286) to authorize appropriations during the fiscal year 1974 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each reserve component of the Armed Forces and the military training student loads, and for other purposes, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

PURPOSE

This bill would:

- (1) Authorize appropriations during fiscal year 1974 for (a) major procurement and (b) research, development, test and evaluation by the Department of Defense;
- (2) Authorize the personnel strength for each of the active-duty components of the Armed Forces for fiscal year 1974;
- (3) Authorize the personnel strength for the selected reserve of each of the reserve components of the Armed Forces for fiscal year 1974;
- (4) Authorize the annual average military training student load for each of the active and reserve components of the Armed Forces for fiscal year 1974;

Referral To CONG Not Required

(5) Continue the authority for merging military assistance and financing for South Vietnam, and local forces in Laos, with the funding of the Department of Defense, subject to a dollar limitation and other restrictions;

(6) Prohibit the obligation or expenditure of funds authorized by this or any other act for carrying out directly or indirectly any economic or military assistance for North Vietnam in fiscal year 1974; and

(7) Impose certain limitations with respect to procurement actions, and for other purposes

The bill authorizes appropriations totaling \$21,394,997,000. This includes \$13,073,200,000 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes and other weapons, and \$8,321,797,000 for research, development, test and evaluation.

H.R. 9286—A CLEAN BILL

H.R. 9286 is a clean bill superseding H.R. 6722 on which hearings were held.

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SUMMARY OF MAJOR COMMITTEE REVISIONS

The changes made in the authorizations requested by the Department of Defense are discussed in detail throughout this report. Following is a summary of major revisions made by the Committee:

1. The authorization for the **F-15** is reduced from the \$918.5 million requested to \$587.6 million, a net reduction of \$330.9 million. This reduces the buy of aircraft authorized from 77 to 39.

2. **Safeguard** antiballistic missile funds are reduced by \$50.7 million. This includes a \$25.7 million reduction in procurement authorization and a \$25 million reduction in the RDT&E authorization, leaving a net authorization of \$350.3 million.

3. The authorization for **conversion of ballistic missile submarines** is reduced from \$229.8 million, the amount requested, to \$79.9 million, a reduction of \$149.9 million.

4. The funds for the **M60A1 tank** are reduced from the \$26.6 million requested to \$18.2 million, a reduction of \$8.4 million.

5. The Air Force request for \$9.6 million to procure 16 **attache aircraft** is denied.

6. The authorization requested to complete funding of the **C-5A** program, \$43.1 million, is reduced to \$37.2 million, a reduction of \$5.9 million.

7. The request for \$9,476,000 for development of the **XM198 Howitzer** is denied.

8. The request for \$3.1 million for procurement of 31,000 **M-16 rifles** is denied.

9. Navy shipbuilding and conversion authorizations are increased by \$79 million to provide long-leadtime procurement for two **nuclear frigates, DLGN-41 and -42**. Language is added to the bill providing that contracts for this advance procurement for the DLGN-41 and -42 shall be entered into as soon as practicable unless the President advises the Congress that their construction is not in the national interest.

10. Authorization requested to cover cost growth of prior-year programs for the Navy is reduced from \$196.7 million to \$174 million to reflect a reduction of \$22.7 million in funds requested for the **LHA** program. The authorization requested for conversion of **conventionally-powered frigates** is reduced by \$20 million, from \$93.7 million to \$73.7 million.

11. The authorization requested for the **Subsonic Cruise Armed Decoy** is reduced by \$50.2 million. A \$22 million RDT&E authorization remains in this program category to allow commencement of a new technology program looking toward a system to replace SCAD.

12. The Air Force's proposed **lightweight fighter prototype** program is reduced by \$6.5 million, from the \$46.5 million requested, to \$40 million.

13. The \$108,825,000 requested for the **Utility Tactical Transport Aircraft System** (UTTAS) is reduced by \$6.2 million to reflect a reduction of 6 in the number of prototypes.

14. Authorization for the **Airborne Warning and Control System** (AWACS) is reduced by \$42 million, leaving a net authorization of \$155.8 million.

15. The Army's request for \$14,498,000 for the development of **nuclear munitions** for short-range tactical weapons is denied.

16. The request for \$170 million for the **site defense** program is reduced by \$25 million.

17. A general reduction of \$36,400,000 is made in the **RDT&E authorization for the Navy and Marine Corps**, the reduction to be applied on the basis of priorities established by the Department of Defense.

18. A general reduction of \$21 million is made in the **RDT&E authorization for defense agencies**, the reduction to be applied on the basis of priorities established by the Department of Defense.

19. The authorization requested for the **Air Force Human Resources Laboratory**, \$8,200,000, is reduced by \$2,989,000.

20. There is added to the bill \$172.2 million for the procurement of 12 **F-111 aircraft**. Language is inserted in the bill providing that these funds shall be available only for procurement of the F-111. This authorization was not requested by the Department of Defense.

21. At the request of the Department of Defense an authorization for procurement of 10 **F-4J aircraft** for the Navy is deleted and the funding authorization therefor, \$130.7 million, continues in the bill for the procurement of **F-14A aircraft**, increasing the buy of F-14's from 48 to 50.

22. The requested **active duty authorized end-year strength** of the Armed Forces is reduced by 13,037, including a reduction of 11,900 from the Army, reflecting a further reduction possible as a result of the withdrawal from South Vietnam; and reductions reflecting the committee intention to curtail the use of enlisted aides and reduce graduate education programs for officers.

23. The allowance of **enlisted aides** for senior officers in the military services is reduced by 35 per cent.

24. Each service is reduced by 10 per cent in the number of officers who may participate in full-time **graduate education programs**.

25. The authorization for **reserve strength for the Coast Guard** is increased by 500 to a new total of 11,800 for Fiscal Year 1974.

26. The ceiling on authorization for expenditures in Fiscal Year 1974 for the MASF program in **support of the military forces of South Vietnam and Laos** is reduced from \$2.1 billion to \$1.3 billion, a reduction of \$800 million from the amount originally requested by the Department of Defense.

COST TOTALS

The total dollar authorization recommended by the committee in the bill, \$21,394,997,000, is \$625,391,000 below the amount requested by the Department of Defense.

The following tabulation compares the amounts authorized for fiscal year 1973 with the amounts requested by the Department of Defense for fiscal year 1974 and the amounts recommended by the committee for fiscal year 1974 in the present bill.

COMPARISON OF AUTHORIZATIONS REQUESTED BY DOD FOR FISCAL YEAR 1974 WITH CONGRESSIONAL ACTION IN FISCAL YEAR 1973 AND COMMITTEE RECOMMENDATIONS FOR FISCAL YEAR 1974

[In thousands]

	Requested fiscal year 1973	Authorized fiscal year 1973	Appropriated fiscal year 1973	Requested fiscal year 1974	Committee recommends
Procurement:					
Aircraft:					
Army.....	\$162,900	\$133,800	\$33,500	\$181,000	\$181,000
Navy and Marine Corps.....	3,276,200	2,073,400	2,822,100	2,958,300	2,958,300
Air Force.....	3,255,700	2,283,900	2,239,300	2,912,800	2,739,100
Total, aircraft.....	6,694,800	5,491,100	5,094,900	6,052,100	5,878,400
Missiles:					
Army.....	896,700	700,400	668,200	599,900	574,200
Navy.....	842,400	769,600	719,240	680,200	680,200
Marine Corps.....	22,100	22,100	22,100	32,300	32,300
Air Force.....	1,816,800	1,745,300	1,670,000	1,573,200	1,573,200
Total, missiles.....	3,578,000	3,237,400	3,079,540	2,885,600	2,859,900
Naval vessels.....	3,564,300	3,179,200	2,970,600	3,901,800	3,788,200
Tracked combat vehicles:					
Army.....	260,700	186,500	130,500	201,700	193,300
Marine Corps.....	62,200	54,500	54,500	46,200	46,200
Total, tracked combat vehicles.....	322,900	241,000	185,000	247,900	239,500
Torpedoes: Navy.....	194,200	194,200	192,400	219,900	219,900
Other weapons:					
Army.....	114,400	57,800	56,300	51,300	44,700
Navy.....	25,700	25,700	25,700	41,900	41,900
Marine Corps.....	900	900	900	700	700
Total, other weapons.....	141,000	84,400	82,900	93,900	87,300
Total, procurement.....	14,495,200	12,427,300	11,605,340	13,401,200	13,073,200
Research, development, test, and evaluation:					
Army.....	2,122,716	1,978,966	1,829,032	2,108,700	2,031,686
Navy (and Marine Corps).....	2,816,787	2,708,817	2,545,213	2,711,700	2,675,300
Air Force.....	3,262,177	3,272,777	3,122,940	3,212,500	3,110,811
Defense agencies.....	520,087	505,987	435,313	525,000	504,000
Director of Test and Evaluation Defense.....			27,000		
Emergency fund.....	50,000	50,000	0	0	0
Total, R.D.T. & E.....	8,771,767	8,516,547	7,959,498	8,557,900	8,321,797
Total, procurement and R.O.T. & E.....	23,266,967	20,943,847	19,564,838	21,959,100	21,394,997
Safeguard construction and family housing (military construction, Army; family housing, Defense).....	6,004	6,004	0		
Grand total.....	23,272,971	20,949,851	19,564,838	22,020,388	21,394,997

¹ Includes \$2,600,000 for special foreign currency program for Navy under R.O.T. & E. authorization.

² Includes \$24,600,000 for the activities of the Director of Test and Evaluation, Defense.

³ The total request figure includes \$61,288,000 for the civilian pay raise, effective Jan. 1, 1973, for in-house laboratory employees. This adjustment was identified subsequent to the initial submission of the authorization request. The actual total of the R.O.T. & E. request supported by the backup justification supported by the services including the civilian pay raise, was therefore \$8,619,188,000.

RELATIONSHIP OF AUTHORIZATION TO TOTAL APPROPRIATION

The \$21,394,997,000 authorized for appropriation in the present bill is only part of the \$85,165,000,000 in new obligational authority requested by the President for the Department of Defense in fiscal year 1974.

The appropriation categories covered by authorization in the present bill are those for major procurement and research, development, test and evaluation. Appropriations for the categories of personnel, operation and maintenance, and a part of procurement are made on the basis of continuing appropriations. Military construction is authorized in separate legislation.

The strength levels of the active-duty components and the selected reserve for each of the reserve components are, however, authorized by the present legislation and the legislation, therefore, has a substantial impact on the appropriations which may eventually be provided for personnel and operation and maintenance.

GENERAL DISCUSSION : COST ESCALATION AND MILITARY PROCUREMENT

The Committee on Armed Services reported to the House last year its deep concern with the continuing problem of unforeseen cost escalation in military procurement and with the manner in which escalation factors are taken into account in the letting of contracts by the Department of Defense. Hearings by the committee at that time determined that insufficient data were available to clearly identify the elements which contribute most to cost escalation. The committee was, for example, unable to obtain a breakdown as to the percentage of cost increases in a given contract which were due to inflation as compared to the percentage due to technical changes. The committee at the time, therefore, directed two separate studies of cost escalation, one to be made by the Comptroller General of the United States centering on the basis of cost escalation in procurement contracts and one ordered from the Department of Defense to provide such analysis of cost escalation as is necessary to develop a capacity to provide for accurate cost-accounting data to the committee.

The studies were performed independently as requested and the reports were filed in March of this year according to the deadline set by the committee.

The full text of both studies are in the record of the committee's hearings, and the committee would urge all Members of Congress to read them.

It is estimated that it will cost more than \$153 billion to acquire the 116 weapons systems now under development. Some \$89 billion of that amount is yet to be appropriated. The heavy impact of weapons spending on the allocation of the Nation's resources is self-evident. At the same time, as the Defense Department study shows, it is possible to misread and overemphasize the place of weapons procurement in determining the impact of defense spending on the national economy. Therefore, because of the enormous sums involved and the crucial importance of improved congressional and public understanding of this issue and because they will be of great benefit to the committee in its follow-on work to better control future Defense expenditures, the com-

mittee has had a synopsis of both studies prepared and presents them here for the edification of Members of the House:

COST GROWTH IN MAJOR WEAPON SYSTEMS REPORT

(Summary of a report by the Comptroller General)

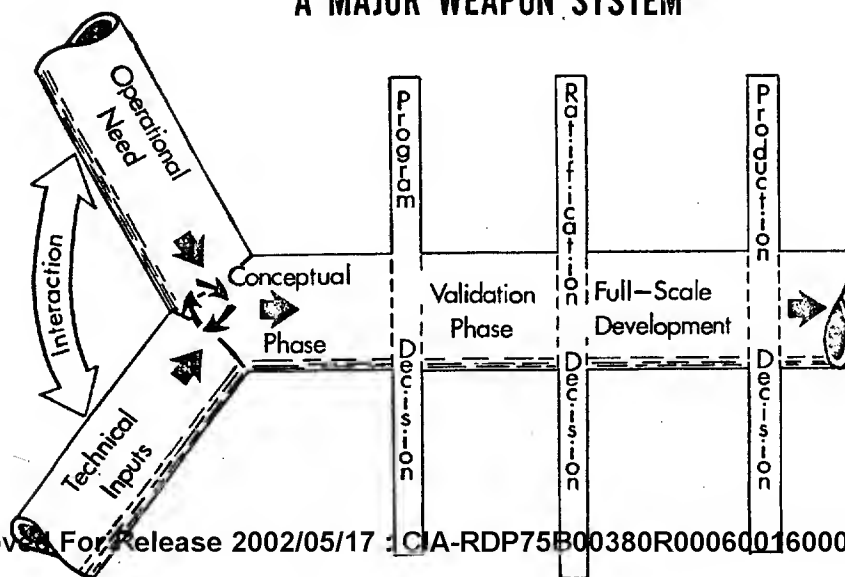
The report analyzes the two principal causes of cost growth: (1) increases resulting from the greater capability (performance) demanded of the replacement system; and (2) increases resulting from the way an acquisition program once started, is managed. Although it is not possible to measure precisely the cost growth contributions of these two factors, many knowledgeable people believe that the greatest cost growth comes from the continuously expanding performance requirements.

The development process

The development process for a major weapon system is a highly structured, complex enterprise involving interaction among users, developers, and contractors often in many tiers; weapon system acquisition thus involves considerable interaction between the public sector and private sector. Common understanding between the Congress and DOD of the bases for initiating and supporting the development of new weapons and of their relation to weapons in being in the total military posture must be sought so that needed stability in acquisition programs can be achieved. Candor with the Congress about such things as the uncertainties associated with cost estimates, technical-risk assessment, and the status of development must be practiced lest surprises undermine the confidence of the Congress and the congressional support for programs.

An oversimplified representation of the manner in which weapon systems evolve from an idea to production is shown below:

THE DEVELOPMENT PROCESS FOR A MAJOR WEAPON SYSTEM



In the conceptual phase of development, the need for new military capability is drawn up, a concept to provide this capability is formed, and its technical feasibility is explored. As a rule, the conceptual phase is the least costly of the four phases shown above. In this phase, however, the services commitment for its system hardens but at this early stage the involvement of the Secretary of Defense is generally small.

In the validation phase the preliminary designs and engineering for the weapon system are verified or accomplished, management plans are made, proposals for engineering development are solicited and evaluated, and the development contractor is selected.

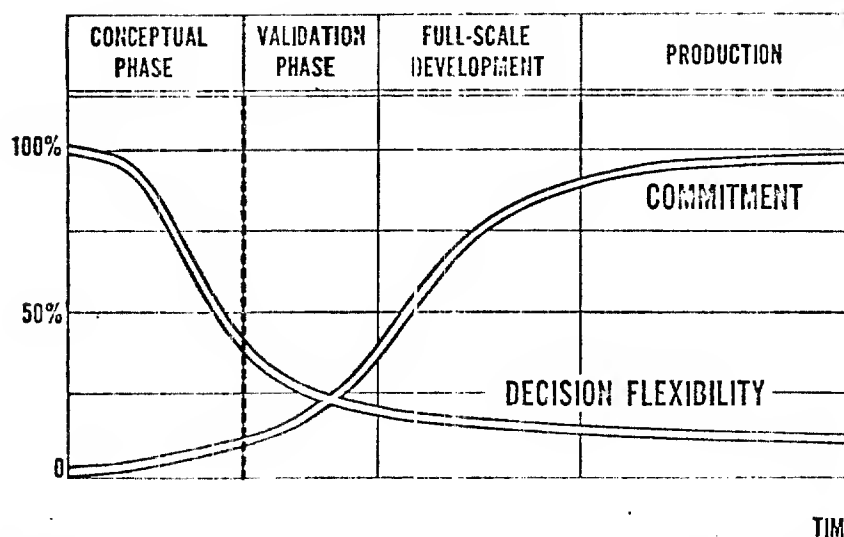
In the full-scale (engineering) development phase the design and the detailed engineering is completed by the contractor. The development contract is negotiated and awarded to start full-scale development. Pre-production prototypes are built and tested in this phase to verify final design or producibility.

It is in full-scale development that massive financial commitments begin. Most of the research and development outlay is spent here and the system acquires sometimes irreversible momentum toward production and still larger allocation of funds.

The production phase begins when the production contract is negotiated and awarded. Here the funds commitment is the greatest. When production gets underway, DOD's commitment to the program is fully public. Larger resources are committed. Cancellation then or later creates a public confrontation, widespread publicity, angry reaction of interest groups, and hazards to careers. These effects build up a strong bureaucratic reluctance to halt or cancel a development program.

The pattern of deeper involvement and decreasing options is shown below. Although the greatest opportunity for far-reaching decisions occurs during the earliest phases of acquisition, the involvement of the Secretary of Defense is insubstantial until called upon to approve a military services specific weapon proposal at the end of the conceptual

ACQUISITION CYCLE

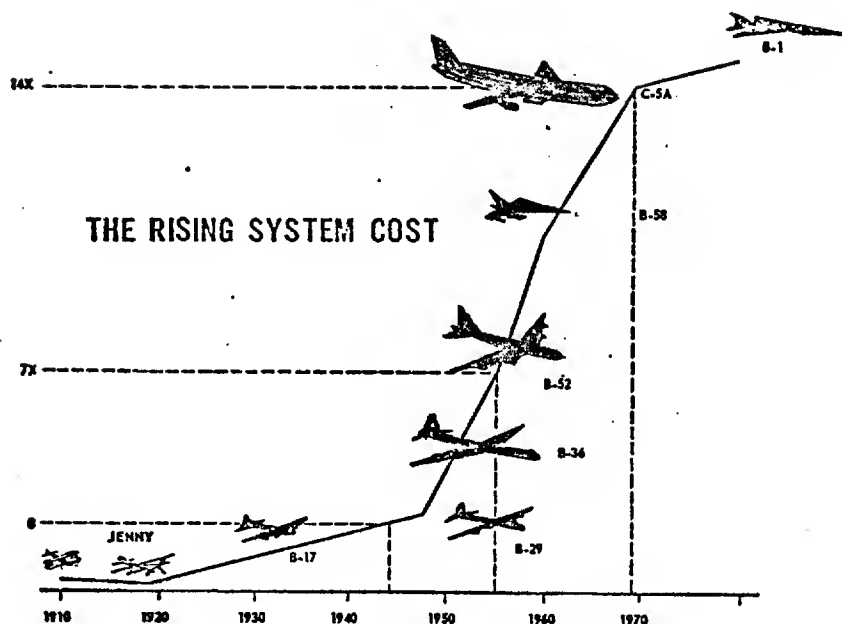


phase. By this time the service is solidly behind its weapon selection and alternatives have been effectively eliminated. Thus his attention is drawn to discuss one weapon system at a time. Inadequate attention is believed to be paid to root questions bearing on the entire mission force and its weakness or its usefulness.

Cost growth resulting from greater capability being demanded of replacement systems

Most resources are invested in weapon systems to replace systems to perform the same types of missions. The successive generation of systems which follow this pattern push state-of-the-art frontiers and, of course, costs increase with each increment of improvement. This technological momentum can be expected to drive costs up no matter how well the programs are managed.

The cumulative effort of the rising costs of military bombers and transport aircraft is illustrated below.



Between 1945 and 1955 the cost of one complete Air Force aircraft system unit with its supporting equipment jumped by a factor of seven. Between 1955 and 1970 the cost of a system unit doubled. Fighter aircraft, tanks, heavy ordnance, and ships have followed a similar trend.

How serious the situation is can be illustrated by a simple comparison. The money that bought 100,000 fighter aircraft during World War II, when adjusted for inflation would buy less than 1,000 F-14 fighters today.

The money that bought 57,000 tanks during World War II would now buy fewer than 2,000 main battle tanks.

The tendency to constantly seek higher performance systems might be described as "performance cost growth." This is one of the most serious aspects of cost growth since under realistic budget constraints the rising cost of systems can be met only with reduced force levels. The following table shows weapons programs where costs have forced reductions in the number of units to be bought.

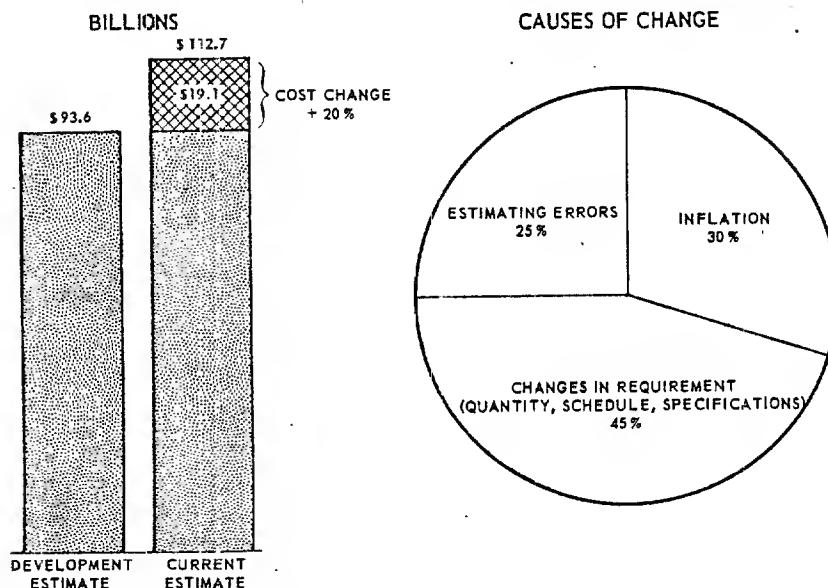
System	Original quantity	Cost (millions)	Current quantity	Cost (millions)
C-5a	120	\$3,423.0	81	\$4,526.0
DLGN-38	23	3,980.0	5	820.0
F-14	710	6,165.0	313	5,272.0
LHA	9	1,380.3	5	970.0

In addition, entire programs, such as the MBT-70 tank program, have been canceled because they were too expensive.

Cost growth due to acquisition management

Cost histories of 45 systems under development at June 30, 1972, show that current estimates of cost to acquire systems increased by some \$31.5 billion—39 percent—over the planning estimates and \$19.1 billion—20 percent—over the development estimate. It is these widely publicized overruns that have shaken public confidence in the ability and credibility of both Government and industry management. Cost growth in development programs is not a new phenomenon. Studies of development programs in the 1950's show cost growth of 200-300 percent. There are at least three different reasons for cost growth. These reasons are displayed below.

ANALYSIS OF PROGRAM COST HISTORIES ON 45 WEAPON SYSTEMS



Estimating errors

Both the competing contractors and service representatives are strongly motivated—the one to propose and the other to accept low cost estimates—to win the contract and to gain approval against competing systems within the same service or similar systems proposed by another service. These strong competitive forces show up as:

Unrealistically high performance requirements.

Sheer difficulty of guessing the unknowns or predicting technology.

Overoptimism on the part of the bidders and the buyers or even “buying in” in the hope of recovering possible losses through engineering change orders.

Cost-estimating changes, however, accounted for about 25 percent of the growth instead of 100 percent, as many people are prone to assume.

A second cause is *inflation*—accounting for about 30 percent of the growth.

The third cause deals with revisions to the *specifications—time schedules, quantities, or engineering changes*. Much of this type of cost growth results from unrealistic performance targets at the outset, including:

Trying to do too much—challenging the state-of-the-art frontier.

Trying to develop and produce the system too fast. One of the most prominent attempts has been concurrency; that is, beginning production before full-scale development and testing have been completed.

Solutions to weapon systems acquisition problems proposed by various authorities

No aspect of Federal procurement has received more attention by the Congress, the executive branch, and the press during the past several years than the subject of the acquisition of major weapons. There has been a steady stream of critiques, hearings, and recommendations—and a high degree of consensus among various experts—about causes and solutions. Among those who have made contributions:

Blue Ribbon Defense Panel.

National Security Industrial Association.

Congressional Hearings and Reports.

Rand Corporation.

DOD, Especially Deputy Secretary David Packard.

Commission on Government Procurement.

Reforms which should be emphasized

The past four years have been a period of vigorous activity devoted to solving the problems in weapon systems acquisition and to initiating new policies, philosophies, and management techniques.

The variety of actions proposed and being implemented are aimed at three key objectives. (Detailed explanations of each proposed action

may be found in Chapter 5, "Reforms Which Should Be Emphasized" of the full report, which is in the committee hearing.)

A. MAKING THE RIGHT DECISION AT THE OUTSET ON WHAT TO DEVELOP
AND FOR WHAT PURPOSE

1. Obtain OSD, service, and congressional agreement on the basic operation *need*, the fundamental *weapon system characteristics*, and the expected level of *resources* to be allocated to that need.

2. *Strengthen the staff support* to provide the Secretary of Defense with comprehensive and objective analyses of missions and weapons requirements.

3. *Extend the span* of congressional authorizations—at least one year in advance of the upcoming budget year.

4. *Strengthen* congressional reviews of weapons budgets by first considering and approving budget totals for major missions. This review will be based on consideration of the overall needs of the various military missions.

B. APPLYING LESSONS LEARNED ABOUT SLIPPAGES AND OVERRUNS

5. *Avoid concurrent development and production* and adhere to orderly and sequential design, test, and evaluation.

6. *Stress austerity* in development, small design teams, freedom to innovate, and maximum competition in the design phase with clear separation of development and production. Encourage continuous development of subsystems.

7. *Adopt contracting practices* and Government-contractor relationships which will encourage the most effective team performance.

8. Continue to improve the Government's capability to *develop* cost estimates covering the development phase, as well as the production phase, of new systems.

9. *Emphasize life-cycle costing* to gain better perspectives on proposed new systems and to strengthen cost-effectiveness analysis.

C. STRENGTHENING THE OVERALL MANAGEMENT OF THE SYSTEM
ACQUISITION PROCESS

10. Continue the current, strong emphasis on *upgrading* the competence, stature, and tenure of program managers and procurement specialists.

11. Continue to emphasize the *operational test and evaluation* by establishing in each military department an organization independent of the developer and the user. The senior OSD official in this activity should report to the Secretary of Defense or to his deputy.

12. One of the deputy secretaries of Defense should assume the responsibility for *mission analysis and system acquisition*.

13. Improve the planning for maintaining the *development and production base*.

COST ESCALATION

(Summary of a study by the Department of Defense)

It is necessary to emphasize that the weapons acquisition area has not been a major area of long-term growth in the Defense budget.

Figure 1.

OUTLAYS, DOD/MAP CURRENT PRICES

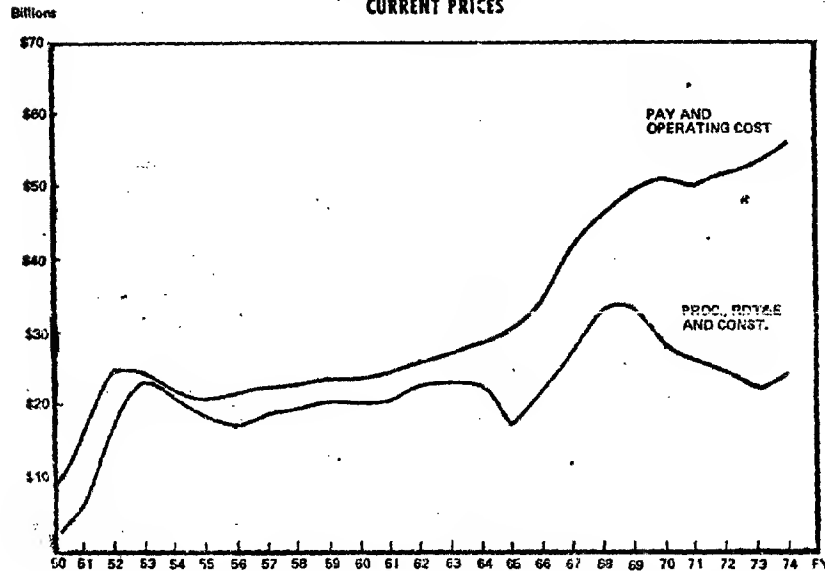


Figure 1 shows a two-way break of total Defense spending since FY 1950. The top line shows pay and operating costs. This includes all military personnel costs, active, reserve, and retired; the entire civil service payroll; and all non-pay operating costs financed in the O&M appropriations. The lower line is primarily procurement, RDT&E and construction—the investment area of our budget.

Note that in the 1950's, after Korea, on up into the early 1960's, these two lines were reasonably close together. In the past 10 years especially, pay and operating costs have surged up. From 1964 to 1974—the past 10 years—Defense spending has risen \$28.2 billion. Of that increase, \$27.2 billion has gone into pay and operating cost, and \$1 billion into the investment area. Measuring from 1954—20 years ago—investment spending is up \$2.5 billion while pay and operating costs rose \$32.9 billion, for a total increase of \$35.4 billion.

These figures have not been adjusted for inflation. If we allow only for normal, economy-wide purchase inflation, we find that—in dollars of constant buying power—the investment area is sharply down over this period. Over the past 20 years, there is a real drop of 36 percent; over the last 10 years, the drop is 26 percent.

Investment programs, then, have not caused major increases in the Defense budget over these years. Nor has the investment area been particularly prone to inflation, or escalation, as these terms are defined—an increase in the number of dollars required to buy the same thing.

The report presents a great deal of data with respect to the impact of inflation upon Defense and other economic sectors. Some of the key findings are:

According to the Department of Commerce, state and local governments have been hit much harder by inflation than has the Federal Government, including Defense.

The same calculations make it plain that inflation is much greater in the area of pay and operating costs than in investment.

In considering the impact of inflation among various sectors of industry, it is apparent that inflation is lowest where Defense does most of its buying, and highest in those sectors (such as construction) where Defense accounts for a small share of the business.

A series of spectacular charges have been made regarding "cost overruns," and it is alleged that these have amounted to \$35 billion. Such charges, though, use planning estimates as a starting point, and this is inappropriate. Starting from the development estimate—the point at which a significant portion of the total cost is committed—cost growth is \$16 billion, not \$35 billion. This represents an increase of about 17 percent, on the average, for all the systems involved.

The cost growth is the net of all factors—changes in quantity, design, schedule, inflation rates, and others. Some of these increases resulted from design or other changes, deliberately chosen. Others arose from failure to anticipate the extent of inflation, an especially easy mistake to make in preparing estimates in the 1960's. Many other developments are subsumed in these overall figures—the turbulence brought by the war, and the sharper cutbacks that have followed.

Current all-time cost estimates are 17 percent higher on the average than the development estimates for the systems, made at various points since the early 1960's, for programs extending into the 1980's. About half of the all-time estimates involved amounts that have not even been requested of the Congress, and some of these costs will never be incurred. To sum it up, the investment area is not particularly prone to inflation, as that term is defined and measured, nor is it an area of rampant spending growth. The "cost overrun" charges are distorted

and misleading. It is necessary to set aside these mistaken impressions in order to focus more clearly on the real problems.

Investment spending has been stable

There are immense problems. The underlying problem is that technology, over the years, has multiplied the unit costs of weapons systems. Both the GAO and DoD reports contain numerous examples of this point. Clearly, unit cost growth of this kind has little to do with general inflation.

The main reason for these long-run increases in unit costs are, first, higher performance brought on by advanced technology and, second, a sharp reduction in quantities procured. Technology has involved several quantum leaps in electronics and powerplants, especially, as well as in airframes, ordnance, and metals and materials generally.

Whatever the reasons, weapons unit costs have been increasing far beyond anything that could be attributed to general inflation.

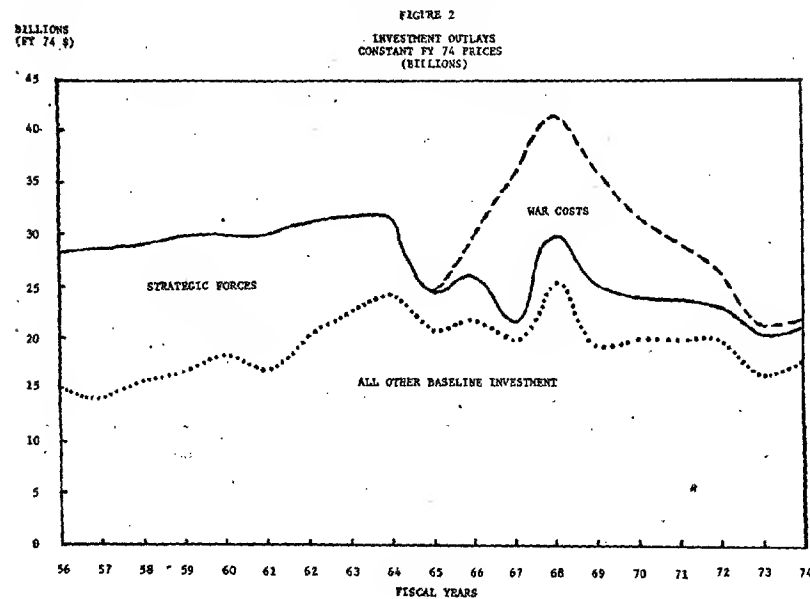


Figure 2 shows the trend of our spending in the investment area in constant prices—that is, setting aside general inflation. Note that FY 1974 outlays are significantly lower than those of the 1950's and early 1960's.

War spending largely involved munitions, weapons attrition, and items procured for Free World Forces—items that do not add to our long-run baseline force. For the baseline force alone, excluding war costs, the downward trend is even sharper.

The late 1950's and early 1960's saw very heavy investment in strategic forces—several times the level of more recent years. Setting aside strategic force investment, remaining baseline investment (the dotted line) compares much more favorably with the levels of earlier years—somewhat higher than the late 1950's, and lower than the early 1960's.

As noted earlier, technology has multiplied the unit costs of weapons dramatically over this period. And, as shown in Figure 2, total baseline investment has actually trended down, sharply, in real terms. *Defense programs have been accommodated to this surge in weapons unit costs within a declining dollar total in two ways: a sharp drop in strategic force investment; sharp reductions in the quantities of weapons procured.* (In the decade 1956-65, for example, an average of more than 1,800 fixed wing aircraft were procured per year. Recent annual buys have been about 500.)

These expedients are now exhausted:

In the earlier years shown in Figure 2, 1956-59, strategic force investment was about \$13 billion per year, falling to less than \$4 billion per year in FY 1973 and FY 1974. Cutbacks in strategic forces will not provide the cushion they have in the past.

Quantity cutbacks cannot go on indefinitely. Having cut annual aircraft procurement quantities from 1,800 to 500 over roughly the past decade, the string has been substantially run out. It would be unwise in the extreme to count on further large cuts in weapons quantities, from a base that has already been sharply depleted.

It is important to have a clear understanding of what the problems are, and what they are not. The weapons investment area is not peculiarly prone to inflation, as that term is generally defined and measured, nor has investment spending grown rapidly over the past 20 years, nor do the spectacular charges of "cost over-runs" provide a meaningful measure of the problem. *The underlying problem has been the increase in weapons unit costs due to advancing technology.* This problem now assumes critical proportions for two reasons: 1. The expedients by which programs have been accommodated to the surge in unit costs—that is, the diversion of the falloff in strategic force investment and the cutback in quantities procured—have been exhausted. 2. There is now a much higher threshold of unit costs. If technology is to continue to drive unit costs upward, starting from the high unit costs of today, the problem becomes several orders-of-magnitude greater than those of the past.

Weaknesses in predicting and controlling costs

In addition to the long-range problem caused by advancing technology, a number of serious weaknesses have been identified in the Defense Department's system for predicting and controlling costs. A number of factors made the problems more acute.

There were several reasons for bad estimates, the most important being advocacy. The people presenting estimates had every reason to be optimistic as to costs and technical aspects—they themselves believe deeply in the program, and they were out to sell it. There was thus a strong tendency to be optimistic regarding critical variables, leading to a compounding of the ultimate error.

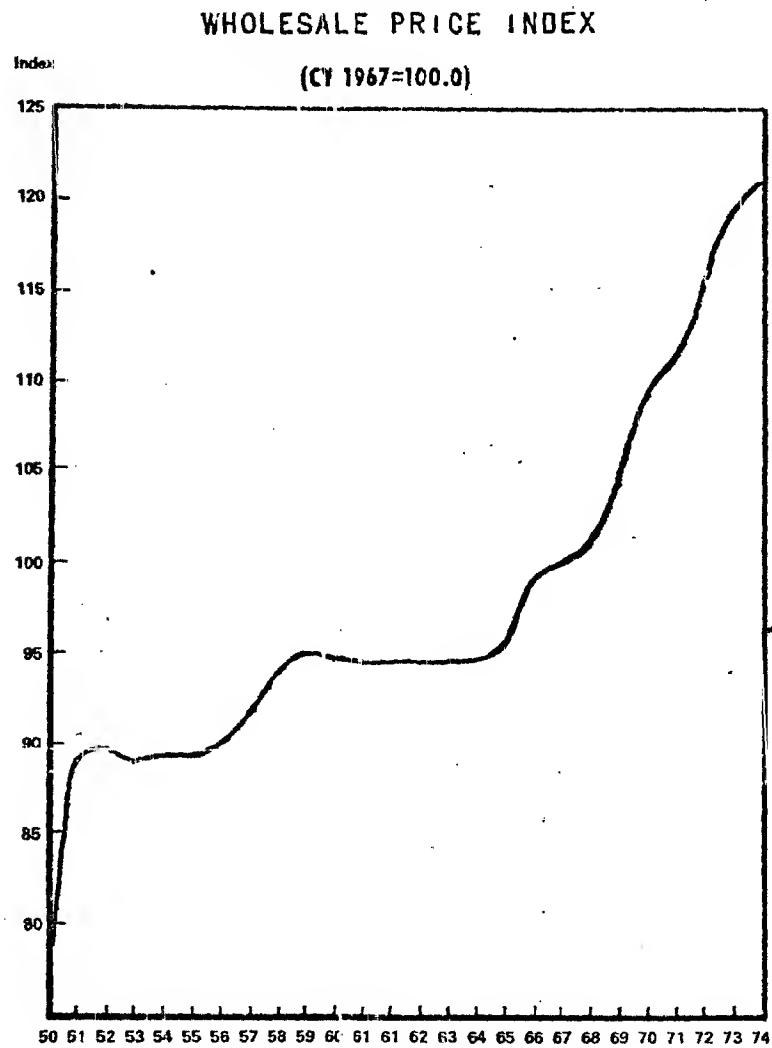
Top-level concern was quite often directed heavily to technical and performance factors, with much less attention paid to costs. Costly design and schedule changes were inevitable under conditions of concurrency.

Cost estimating was not systematic. In some cases the original estimates included an allowance for change orders, special tooling, support equipment, specialized training equipment and spares, for example. In other cases, these items were routinely regarded as additives to the bare-bones initial estimates.

To this situation, we must add the developments of the latter 1960's. DOD peacetime experience with procurement of major weapons was largely confined to the post-Korea period. That, as it happened, was a period of very stable prices.

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Figure 3



As Figure 3 shows, the wholesale price index hardly budged. Then in 1966 and thereafter prices began to shoot up. At the same time, schedules had to be rearranged because of the war; the labor market tightened; and defense demands on industry grew. These factors in themselves caused major increases in costs measured from estimates prepared during this period. Inflation alone was a major factor. DOD did not foresee its magnitude and duration and usually did not allow for it in systems estimates.

DOD had been allowing for escalation in one area: shipbuilding. In this area DOD sharply reduced escalation allowances in 1965, just before prices began to skyrocket and just as DOD was introducing other complex changes into the shipbuilding program.

There was a great deal of turbulence in Defense budgets and programs over this period. Investment spending grew 71 percent in three years—1965–68—then fell almost by half in the next five years—1968–73. Service requests were reduced by the Office of the Secretary by large amounts—\$20 billion or more—each fall, and congressional action came to be increasingly delayed. All of these developments added up to turbulence and uncertainty.

Corrective efforts

Thus the spectacular instances of cost growth arise from a combination of the long-run cost thrust of technology, the weaknesses in the DOD management systems and the turbulent economic conditions of the late 1960's.

The corrective steps being taken may be summarized in seven major headings. The Defense Department has:

1. Put increased stress on careful evaluation of weapons proposals in terms of military needs, alternatives, cost, technical risk, timing and other factors.
2. Placed major emphasis upon improving and standardizing cost estimates and the means for keeping costs within bounds.
3. Developed means for monitoring progress against technical objectives and highlighting technical problems promptly.
4. Strengthened the weapons system manager.
5. Moved to eliminate concurrency of development and production and generally slowed the pace.
6. Emphasized hardware, rather than paper, testing, attempting to follow a philosophy of fly before buy.
7. Begun to apply a design-to-cost approach.

The basis for decision-making at the top levels in the Department of Defense is provided by the Development Concept Paper (DCP) and the Defense Systems Acquisition Review Council (DSARC) process.

The DCP is a summary document that provides a broad overview of a major defense system. The Secretary's decision recorded in the DCP establishes the limit of authority delegated to the service for manage-

ment of the program. It represents a contract between the Secretary of Defense and the military department involved.

The DSARC serves as an advisory body to the Secretary of Defense.

Cost considerations have come to be emphasized increasingly, especially over the past year, to the point where they now share equal billing with performance and schedule goals in the work of the DSARC. In some instances, cost ranks as the primary consideration.

A number of steps have been taken to improve cost estimating and control.

DOD has established uniform criteria as to what is to be included in system cost estimates, defining such items as fly-away costs, weapon system costs, procurement costs and program acquisition costs.

DOD requires that independent cost estimates be prepared, in addition to that developed in the program manager channel.

Working with contractors, DOD has developed and applied Cost/Schedule Control Systems Criteria, with an associated Cost/Performance Report.

With the approval of the Office of Management and Budget, expected impact of inflation is incorporated in all systems cost estimates.

The Selected Acquisition Reports (SAR) reflecting the project manager's current "best estimate" of key performance, schedule and cost indicators, are prepared on 45 systems with a cumulative acquisition cost of over \$100 million.

The design-to-cost approach deserves particular emphasis. In the last 10 years pay and operating costs have grown \$27.2 billion—in spite of a cutback of 474,000 in military and civil service personnel. Investment spending is \$1 billion higher than 10 years ago, and \$2.5 billion higher than 20 years ago—not enough, by a wide margin, to cover even general inflation. If technology continues to drive unit costs constantly upward, the result can only be a falloff in weapons qualities. DOD believes that the design-to-cost approach will have to be increasingly emphasized—designing an adequate quantity of weapons within a given amount of money. In large parts of the Defense program, DOD will have to forego technological gains otherwise achievable to stay within this financial constraint. Quite often, the last few points of performance add immensely to the unit cost; it is these that we must, in some instances, forego.

Everyone who is involved in the formulation and execution of national-security policy must recognize that we are dealing with a finite level of resources and that the national interest will not always be well served if every system is pushed to the ultimate level of attainable technology.

Conclusions

The Department of Defense believes it is making substantial progress particularly in improving cost estimates and in the application of

the design-to-cost approach. Escalation should not be over-emphasized since the weapons procurement area has not been particularly prone to inflation. The key factor is the cost-thrust of technology.

There must continue to be flexibility as to the means of providing for escalation in individual contracts, using explicit escalation clauses in some cases. Such escalation clauses should be pegged to indices not to cost experience of individual contractors. The critical point to remember is that there is interaction between escalation provision and the basic estimate itself.

The Defense study has uncovered no areas where legislative changes or extensive changes in contractor accounting systems are required.

Areas were found where the guidance from the Office of the Secretary of Defense isn't adequate. There are problems with incorporating escalation in certain parts of particular cost estimates, and guidance is not specific enough for categorizing cost changes under the SAR system. The Department of Defense is continuing to work to improve these areas.

COMMITTEE COMMENT ON COST-ESCALATION STUDIES

The Committee believes these studies are important steps in the continuing effort that must be made to improve control over defense costs.

The Committee believes that one of the most salutary effects is aiding those who made the studies to better identify the areas where greater effort is needed. The report by the Comptroller General will be extremely helpful to the GAO in sharpening the work it is doing for the Congress on defense programs. Similarly, the Defense Department study should aid the Department's administrators in identifying problems to which they must give particular attention.

The Committee would call attention to the recommendation in the report of the Comptroller General that the Congress get involved in weapons decisions at an earlier point in the decision-making process, before executive branch positions have solidified. The Committee be-

believes that this is central to effective control by the Congress and will continue to explore means by which this can be accomplished.

The Committee calls to the attention of Defense Department officials, military and civilian, the part of the Comptroller General report stressing the need for candor with the Congress about uncertainties in programs and the importance that such candor will have in developing the necessary confidence in the Congress for support of defense programs.

The Committee believes it is significant that the Comptroller General's report was able to provide a rough percentage break-down as to the impact on cost escalation of such factors as inflation, cost-estimating errors, and changes in requirements. Such a breakdown was not available in the past.

The Committee would particularly call to the attention of the House the point made in the Defense Department's study that absorbing increases in investment costs, or weapons procurement costs, by decreasing the quantities purchased cannot go on indefinitely. The Congress cannot allow obsession with unit cost to result in inadequately equipped forces. The Committee thinks it is important to stress the point made in the Defense report that total weapons procurement spending has been surprisingly stable over the years and major weapons procurement per se has not been the driving force in the growth of the Defense budget.

The Committee would particularly emphasize for the Members of Congress two other points:

First, as both reports make clear, there are no easy panaceas, but rather a requirement for a lot of hard work at all levels in the defense business.

Second, that providing an adequate national defense is a continuing business and we cannot halt the development and procurement of weapons systems while the process is being improved.

Finally, the Committee would say that it recognizes its own need for independent analysis of defense programs and with these reports as a base will continue to pursue avenues of more effective review of military authorization requests.

DISCUSSION OF MAJOR PROCUREMENT PROGRAMS

A-10

The Air Force request in the procurement account for the A-10 Close Air Support Aircraft was \$30 million in advance procurement authorization. The committee spent a considerable amount of time during the hearings on this program. The particular point which caused the most concern was the Air Force schedule for the various milestones in their contract with the aircraft manufacturer.

The program presented to the committee calls for 10 RDT&E aircraft to be produced for flight testing and demonstration of the operational capability of the weapons system. The contract for the 10 RDT&E aircraft was entered into on March 1, 1973 and was a cost-plus incentive fee contract in the amount of \$159,279,888 (target cost plus target fee) to Fairchild Industries, Inc., for the development of the 10 RDT&E aircraft. The contract provides for a cost sharing arrangement whereby the cost above target is shared by the Government and the contractor on a 70/30 ratio, respectively. If the cost reaches \$186,810,083, the contractor will have lost all his fee. The Government assumes all additional cost over this amount.

A contract was also awarded on March 1, 1973 to the General Electric Company for the delivery of 32 TF-34-100 engines with options for additional production engines included in the contract.

The committee learned that the Air Force schedule calls for exercising the first production option in May 1974, seven months prior to the delivery of the first RDT&E aircraft.

When the committee questioned the Air Force about this apparent discrepancy in the "fly before buy" concept, it was advised that the Air Force had 180 days from May 1974 in which to exercise the first production option, which would expire on 1 November 1974. This is still over a month before the delivery of the first RDT&E airplane. However, the committee further learned from the Air Force that if it delayed exercising the option for the 180 days provided in the contract, the production costs for the first 48 aircraft would increase approximately \$12 million. Therefore, the committee is very distressed about the situation in which the Air Force's A-10 contract has put the Congress.

Because of the many assurances given the committee about the minimum risk involved in a production decision on this close air support aircraft and the strict adherence to the contractual milestones, the committee recommends the approval of the \$30 million request for advance procurement.

F-15

The FY 1974 Air Force request, as originally submitted, contained an authorization for 77 F-15 aircraft in the amount of \$801.9 million. Also requested was \$116.6 million for initial spares. This request, together with the FY 1973 procurement (30 aircraft) would have completed the procurement of aircraft for the first wing, a total of 107.

The contract for the engine development program for the F-15 was awarded to Pratt and Whitney and development was started on 1 March 1970. It was to be a joint development program for the Air Force and the Navy. The Air Force engine is called the F-100, and

the Navy engine is called the F-401. The program has continued to the present point in time, with the Air Force completing what they call "preliminary flight rating test" in February 1972. Since that time, they have been flying the engine at Edwards Air Force Base in F-15s and the engine has over 800 flight hours to date with no significant deficiencies in actual flight noted. However, the ground tests of the F-100 engine have been plagued with difficulties and failures on the test stand and in wind tunnel testing.

The most recent controversial point was the test which is called the Military Qualification Test (MQT), a 150-hour durability test which becomes the base line for a production configuration. The contract milestone called for the MQT to be completed in February. There was a failure to meet the test requirement on schedule, which will be an added cost of "a few tens of millions of dollars."

Because the contracts that the Government has with industry are two separate contracts, one with McDonnell-Douglas for the airframe and one with Pratt and Whitney for the F-100 engine, the Air Force found itself in a position where McDonnell-Douglas had satisfied all of their required milestones either on or ahead of schedule, but the engine contractor had not. The Air Force Program Manager testified before the committee that he felt that because the test experience to date showed that he had a minimum risk program, and that it was within his prerogatives as the Program Manager to make certain trade-offs regarding the test program for the engine, he should exercise those prerogatives, and he did. This is where the present controversy concerning the engine program arose. The Program Manager modified the MQT, 150-hour durability test run in two particular points, altitude and mach number.

The F-100 engine successfully passed the *modified* MQT, which legally bound the Air Force to exercise its production option with the engine contractor. However, the Air Force testified that it would *rerun* the 150-hour durability test *at the original specifications* and hopefully have it completed by September 30, 1973.

After very detailed Air Force testimony, the committee members determined that because of the apparent engine deficiencies, that the program should be slowed down at least until the MQT was successfully performed, and therefore, voted to reduce the Air Force F-15 request by 50 percent.

Accordingly, the committee recommends that the Air Force program for the F-15 for FY 1974 be reduced from a buy of 77 to a buy of 39 aircraft, and the procurement and the initial spares authorization be reduced from \$918.5 million to \$587.6 million, a net reduction of \$330.9 million.

F-14A

Again, as last year, the F-14 aircraft request was a cause of major concern to the committee. Navy's original FY 1974 budget request of \$572 million for 48 aircraft included flyaway hardware, support, spares and advance procurement. The airframe portion of the \$572 million budget reflected Grumman's original F-14 contract ceiling price as adjusted for application of the abnormal escalation clause. This request was submitted prior to completion of negotiations between the Navy

and Grumman regarding the FY 1973 buy of 48 F-14As (Lot V).

The committee began hearings on the FY 1974 Procurement Authorization Bill on April 10, 1973 knowing that on December 11, 1972 Grumman "rejected" the option exercised by the Navy on December 8 for its Lot V procurement of 48 F-14 aircraft.

The committee was advised that in order to get Grumman to agree to produce Lot V at the original contract price, Navy agreed to cancel all future contract options and negotiate any future F-14 buys on an annual basis.

Therefore, the committee was in a quandry in connection with the F-14 program until the receipt of a letter on June 11 from Deputy Secretary of Defense Clements outlining the proposed F-14 program for FY 1974.

The committee was pleased to receive testimony from Deputy Secretary Clements on June 14, 1973 outlining the Navy's current position regarding the F-14 program. Secretary Clements pointed out that he had determined that the Department's current position was to request 50 F-14's in FY 1974 in the approximate amount of \$703 million, which is a summation of the \$572 million originally requested by the Navy for 48 F-14's and \$131 million originally requested by the Marine Corps for 10 F-4J's. Further, subsequent buys, in increments of 50, 50 and 29, to bring the F-14 inventory to a total of 313 would cost an estimated \$2.823 billion. The desired inventory of 313 F-14s was determined by Secretary Clements as the total requirement for the Phoenix-equipped weapons system.

Secretary Clements further testified, in support of his recommendation to the committee, that (once 313 Phoenix-equipped F-14's are procured) the fighter modernization program for the Navy and Marine Corps required a less expensive prototype flyoff between the Navy F-14 and the Air Force F-15 aircraft. He stated that he had decided to not authorize the Navy, nor recommend to the committee, the initiation of any new aircraft development program, but rather, draw upon developments underway or completed. He further stated:

Within this general approach, I have directed the Navy to take the following action and to seek your committee's approval.

First, two different types of aircraft will be developed and tested to determine their cost and effectiveness as replacements for part of the F-4 inventory in the Marine Corps and the Navy.

Two aircraft of each type will be procured for the testing program. The first aircraft will be a modification of the F-14. It will not have a Phoenix missile capability, though it is possible its avionics can be based upon the existing weapons system, such as the F-14's APG63, rather than an entirely new avionics development.

I will look to the Navy and to the contractor to take aggressive, innovative measures to substantially reduce the cost to the F-14 airframe so that it can be a credible competitor. The second airframe will be a modification of the Air Force F-15. The weapons systems capability for this competitor will be the same as the Air Force aircraft.

The principal difference will be in changes to make the aircraft carrier-compatible on a structural basis, including the

incorporation of lift devices to reduce the approach speed of the aircraft.

I considered the possibility of including an improved F-4 prototype in this program and determined that status of the development and testing of the improved F-4J is such that further investment in it as a prototype is not necessary.

We know enough about the airplane and its avionics to make an adequate appraisal of its capabilities, and would not learn enough more than we already know to justify the additional expense.

The second action that I directed is that these prototype aircraft be available for flight testing by late 1973. We will make every effort to assure that this timeframe is met. In no case will we accept initiation of flight tests later than December 1973.

The flight test program will be conducted by the Navy and closely monitored by the Deputy Director of Defense, Research and Engineering for Operational Test and Evaluation.

The third step that I have directed is that a decision will be made by the Navy-Marine Corps of F-4 replacement aircraft by July '76. This decision will be based upon a minimum of six months competitive Navy flight testing after any necessary contractor flight test.

A considerable amount of work remains to be done to establish exactly how much this program will cost, and I am not prepared to state specific totals at this time.

However, to initiate the program I estimate that \$150 million will be needed in RDT&E in FY '74. I will be able to provide the committee with specific details regarding costs after we have gone to the contractors and obtained their proposals. I would estimate we can do this within 30 days.

After studying the proposals, I will present the necessary details to you. At this time, I request the committee's approval and support of the plan and your assistance in getting off to a good start.

Subsequent to the appearance of Deputy Secretary of Defense Clements, the Committee received testimony from Mr. George Spangenberg, recently retired as Director of Evaluation in Naval Air Systems Command, relative to the proposal on the prototype program for the F-14/15. Among other things, Mr. Spangenberg provided the Committee with cost estimates developed by the Department of the Navy which indicated that no money would be saved in following the proposed prototype programs. The study indicated, as a matter of fact, that the Department of Defense would be more prudent to go forward with its established programs rather than attempting to develop a stripped down economy version of a less capable F-14 or F-15.

In view of this testimony and in the absence of any persuasive rebuttal from the Department of Defense, the Committee rejected the proposal advanced by the Deputy Secretary of Defense.

The Committee therefore recommends approval of the revised request to delete ten F-4Js and increase the F-14A buy from 48 to 50. There will be no change in the amount of authorization requested.

Attaché Service Aircraft

Last year, this committee approved the Army's request for the purchase of 20 U-21F aircraft at a cost of \$12.7 million. The committee also approved the purchase of 14 aircraft in the Air Force request designated CX-X at an estimated cost of \$8.4 million. The Air Force specifications called for an FAA certified, off-the-shelf, medium-weight, executive transport to serve the needs of the Defense Attaché Service. In our report, we stated:

The (Air Force) specifications described to the committee appear to be identical with the U-21F type aircraft requested in the Army program.

Therefore, the committee feels that it would be feasible for the Air Force to designate the Army as its procurement agent and that a common buy be made. The committee is advised that an approximately 10-percent savings on each aircraft could be realized in a single buy of 34 aircraft rather than a separate buy of 20 for the Army and a separate buy of 14 for the Air Force.

The Senate deleted both of these aircraft in their deliberations. In conference, the Senate recessed after the conferees received assurance from the military departments that the buy for the Army and Air Force would be a common procurement of a single aircraft and that there be a competitive joint procurement of off-the-shelf aircraft without unnecessary military modifications.

Accordingly, a Request for Proposals was issued on October 6, 1972 with specifications incorporating "minimum" and "desired" levels of performance. Subsequent to receipt and evaluation of proposals, Secretary Froehlke, on January 20, 1973, canceled the procurement when it generally became known that the Source Selection Board had apparently picked a jet aircraft rather than a turboprop aircraft.

Since cancellation of this negotiated procurement, the Army and the Air Force have been meeting to reach agreement on the specifications to be utilized in resoliciting for the procurement of the aircraft. The committee is advised that Army's minimum requirements have not changed since its testimony before the Congress during the FY 1973 hearings, i.e., a U-21F type aircraft would comply with and satisfy its operational requirements. The Air Force, on the other hand, has determined that its requirements are higher than the U-21F in two areas. These are single engine rate of climb and single engine service ceiling.

To resolve this dilemma and to permit the expeditious replacement of the deteriorating fleet of utility aircraft, discussions have continued between the services. The attempted single service consolidated procurement did not produce the desired result since requirements for the Army and Air Force aircraft are said to be somewhat different. Performance requirements representative of the turboprop type aircraft satisfy the Army's minimum operational requirements. However, the Air Force has taken the position that an increased capability is needed for the CX-X to assure that minimum safety of flight performance requirements can be satisfied.

As a result, the committee received a request from the Army asking permission to procure aircraft that met its minimum requirements separate and apart from the Air Force.

During the hearings, the Army, in their FY 1974 request for 20 additional aircraft, at a cost of \$12.2 million, again justified a turbo-prop-type aircraft to the satisfaction of the committee, and the committee recommends approval of the Army request. However, the committee was not convinced that the Air Force justified a higher specification than the Army for the uses to which these aircraft are to be put. Therefore, the committee recommends that the Air Force request for 16 CX-X attack aircraft, in the amount of \$9.6 million, be disapproved.

F-111

Members of this committee have expressed concern over the fact that the Department of Defense did not submit a request for further production of the F-111 type aircraft in the FY 1974 budget. Many members expressed amazement that the administration's budget would let the F-111 production line die while continuing other lines such as the A-4, which is 1948 technology; the A-6, subsonic 1950 technology; the A-7, 1950 technology; and the F-4, of which the U.S. already has more than 4,000.

The committee discussed at length this particular program and received testimony in connection therewith. The majority of the committee arrived at the conclusion that we might be creating an unnecessary problem for ourselves by blindly accepting the strategic bomber schedule of the Department of Defense. It seemed that a simple solution to the whole problem would be to preserve the alternative that is found in the F-111. That production line is the only existing bomber source in the free world today. The F-111 is the only tactical aircraft we have which can be converted to a strategic aircraft, the FB-111, with minor modifications.

In response to discussions and inquiries, the committee requested and received a letter from the General Dynamics Corp. dated June 14, 1973 submitting an estimate for continuing the production of the F-111 weapon system beyond the current program which ends in December 1974. The committee had been advised that the Air Force and General Dynamics some time ago negotiated a program for 12 F-111 aircraft in FY 1974.

These negotiations contemplated authorization to proceed on 1 January 1973 and the target price established for a fixed price incentive fee contract was \$136.3 million. At that time, it was estimated that \$30 million in long lead items should be added for the required engines and other GFE for purposes of determining the total program cost. Since the FY 1974 program has not been authorized and the \$30 million long lead procurement funds have not been released, some changes to the negotiated program, described above, are necessary. Assuming a release of long lead funds (\$30 million) not later than 1 August 1973, General Dynamics is able to make a firm commitment for a 12 F-111 program at a target price of \$148 million. The target price excludes the prices for engines and other GFE as well as spares and other initial support items. With that background, the General Dy-

namics proposal of the total program cost for a 12 F-111 program follows:

12 F-111 airplanes:	<i>Millions</i>
Airframe and avionics-----	\$148.0
GFAE-----	32.2
Spares and support (8 percent)-----	14.4
Program total-----	194.6

NOTE.—These figures include (1) the additional cost caused by delay in release of long lead funds, and (2) the \$30 million long lead funds provided in the FY 1973 budget.

The above information was transmitted to the Air Force and their comments were requested. The reply received from the Air Force indicated that they agreed, in general, with the General Dynamics figures. However, the Air Force's estimate for spares and support equipment is \$23.5 million as compared with \$14.4 million shown above estimated by General Dynamics, a difference of \$9.1 million.

Further, there is an apparent discrepancy of \$19.1 million between the General Dynamics' letter to the committee and the Air Force letter in the estimated cost of a 12 aircraft buy of the F-111. The difference involved their respective estimates of initial spares and support equipment (\$9.1 million) plus the Air Force claimed requirement for an additional flight simulator (\$10 million).

As far as the simulator is concerned, the Air Force stated that it would be possible to defer the \$10 million, and it should be deferred until a later year program.

Regarding the difference of \$9.1 million for the initial spares and support equipment, the contractor's estimate was based on a straight actuarial calculation using 8% of the basic cost, or \$14.4 million. The Air Force estimate of \$23.5 million (\$15.3 million support equipment plus \$8.2 million initial spares) was presumably arrived at by a more detailed item by item analysis. The reason that this figure is higher than the more usually accepted 8% is, quite frankly, that during the last several years' buys of the F-111s, the Air Force has scrimped on these items in order to hold down the total cost. In other words, the extra \$9.1 million that the Air Force estimates is needed for initial spares and support equipment is as much to support these previous aircraft as it is for this year's buy. However, \$1 million of the \$9.1 million difference was added by the Air Force for FY 1975 initial spares. The committee believes this \$1 million can be deferred until next year.

The committee, therefore, recommends the authorization of \$172.7 million for a 12 F-111 aircraft buy.

C-5A

As the committee reported last year, the C-5A continued to provide the Military Airlift Command with the unique capability to move combat and combat support units, including "outsized" equipment and logistical supplies, rapidly and efficiently under wartime or emergency conditions. It continues to assure the balanced and effective deployment of manpower and materiel.

As of the end of May 1973, when the last C-5A was delivered to the Air Force, this aircraft had logged over 100,000 hours in test, training and airlift missions. Operational units have flown over 2800 scheduled

airlift missions transporting over 150,000 tons of cargo for the Department of Defense. In addition, the C-5A has flown over 600 Special Assignment Airlift Missions (SAAM) carrying over 29,000 tons of cargo predominantly outsized to any other Air Force airlift aircraft.

Our Strategic Airlift Force, consisting of C-5s and C-141s, is now fully equipped. These aircraft, in concert with the Civil Reserve Air Fleet, have the capability to airlift armored divisions with virtually all of their heavy equipment—worldwide.

In FY 1973 the Air Force requested funds to complete the C-5A program. Congress reduced the request, leaving funding to be approved incrementally. For FY 1974 the Air Force requested \$43.1 million to cover the C-5A requirements, however, the committee has learned that \$37.2 million will satisfy the FY 1974 requirements.

Air Force Secretary Seamans advised Congress that the fatigue life of the C-5A continues to be a subject of concern. Further, an independent structural review team formed in late 1971 has outlined a number of alternative methods for increasing fatigue life of the aircraft. As a result of this review, the Air Force is implementing flight and fuel management techniques, and is going ahead with an active lift distribution control system, to reduce stress on critical wing areas during flight operations. Other tests, refurbishment, and depot AGE can all be accommodated with the funds recommended by the committee.

The committee recommends the approval of \$37.2 million for the C-5A program.

Safeguard

The bill contains \$350.3 million for the Safeguard Anti-Ballistic Missile System, including \$159.3 million for procurement and \$191 million for research, development, test and evaluation. The total authorized, \$350.3 million, represents a \$50.7 million reduction below the amount requested.

The funds authorized provide for the continuation of Safeguard deployment at one site at Grand Forks, North Dakota, consistent with the Treaty on the Limitation of ABM Systems entered into by the U.S. and the Soviet Union in 1972. Under the terms of the Treaty, each nation is limited to two ABM sites, one for the defense of ICBM fields and one for the defense of the nation's Capital. Congress last year made the determination not to field the system in the Washington, D.C. area. Consistent with that determination by the Congress, this year's request included only funds necessary for the deployment at the Grand Forks site.

The system is due to become operational at Grand Forks during fiscal 1974 and this year's authorization represents the last significantly large funding request for the Grand Forks site.

During the Committee's initial review of the Safeguard procurement the Committee questioned Army witnesses closely concerning the level of funding required for the program. Following that review the Army reanalyzed its request and indicated to the Committee that it could take a reduction of \$25.7 million in the procurement account for Safeguard, the major portion representing reduction in the amount requested for ground equipment. The procurement authorization was accordingly reduced by that amount.

In addition, the Committee determined that the level of R. & D. funding was extraordinarily high for a system which is close to com-

pletion. The Committee, therefore, while recognizing that most of the R.D.T. & E. funds were for testing and advance software for the system, nevertheless concluded that a reduction of \$25 million could safely be made in R.D.T. & E. funds for Safeguard.

The combined effect of the procurement and R.D.T. & E. reductions, therefore, is a net decrease in the Safeguard authorization of \$50.7 million below the amount initially requested.

Lance

The bill provides \$83.7 million, the amount requested for procurement of the Lance (MGM-52C missile). In addition, the bill provides \$1.5 million for initial spares for a net total authorization of \$85.2 million for the system. R. & D. has been completed on the Lance and no R.D.T. & E. funds are included for the system in the present bill or planned in the future.

The Lance is a mobile surface to surface ballistic missile system to provide general fire support at the corps and division level. The present authorization continues the level of procurement initiated last year looking towards the gradual introduction of the Lance into the Army system replacing the Honest John and the Sergeant missile battalions.

The authorization provided in the bill provides for a nuclear-only capability for the system. The Armed Services Committee has in the past indicated its support for a non-nuclear as well as a nuclear warhead for Lance. The Army is, however, pursuing a R & D program looking toward an eventual non-nuclear capability for the system. A study presently being conducted with the cooperation of the Institute for Defense Analysis is examining the cost effectiveness of the non-nuclear warhead. The results of the study are expected to be available in April of 1974. The Committee will expect the results of the study to be available to it in time for consideration of the fiscal 1975 missile procurement program so that funding for a non-nuclear capability can be included in next year's authorization bill if the study indicates that such would be cost-effective. The Committee notes that the Army continues to support a non-nuclear capability for Lance.

DLGN

The House Armed Services Committee in acting on the recommendation of its Seapower Subcommittee added to the authorization this year the sum of \$79 million to cover additional long-leadtime funding for two nuclear frigates DLGN-41 and -42.

The Navy presently has only two nuclear frigates in commission—the BAINBRIDGE (DLGN-25) and the TRUXTUN (DLGN-35). Despite the initial objections of the Department of Defense, the Committee on Armed Services and the Congress gave the Department of the Navy authority, which it utilized, to initiate construction on two additional nuclear frigates, the CALIFORNIA (DLGN-36) and the SOUTH CAROLINA (DLGN-37). These nuclear frigates will enter the fleet in calendar year 1974 and 1975 respectively.

Subsequent to that action, the Department of the Navy recommended the initiation of a new class of nuclear frigates, the so-called DLGN-38 class. At the time Congress was requested to approve this program, the Department advised that this class would consist of at least four nuclear frigates. Congress approved this program but the

Department has seen fit to limit construction on this new class of nuclear frigates to three ships—the DLGN-38, -39, and -40. Unfortunately, the Department has no provision in its 5-year plan for initiating construction of any additional nuclear frigates of this class.

In view of these circumstances, and because of the obvious requirement for additional nuclear-powered frigates to accompany our nuclear-powered aircraft carriers, the Committee is providing for long lead time items in this bill for the DLGN-41 and -42. Aside from the military and strategic considerations that prompt this decision, the Committee wishes to point out that the decision to go forward with these additional nuclear-powered frigates of the DLGN-38 class will offer the opportunity for economies in ship construction costs that will not be available in the event the Navy fails to exercise its option for future construction under the existing DLGN-38 contract.

As the escorts for each nuclear-powered aircraft carrier are converted to nuclear power, the carrier achieves far more of its potential capability. With four nuclear-powered carriers planned for the Fleet, a minimum of 16 escorts is needed. The escorts have proven to be extremely valuable for independent work as well. Because of their nuclear powerplant they can move without waiting for black oil in order to meet an emergency and arrive at their destination ready to fulfill their mission. Neither the commanding officer of a ship nor the commanding officer of any group utilizing nuclear power ever has to concern himself about fuel levels dropping to such a point as to make it necessary to curtail any mission.

In order to provide the funds for the DLGNs the committee took \$22.7 million from the item Cost Growth of Prior-Year Programs, a sum Navy had earlier advised the committee it did not need for the LHA program. However, the funds were still included in the President's budget. The committee took \$36.3 million from the program for the conversion of Polaris to Poseidon. This program has historically had a large amount of funds available for reprogramming because of superior management. The committee also took \$20 million from the conversion of conventionally-powered frigates since these were going to be sent to private yards instead of public yards which the Navy informed the committee would involve a saving and also would involve a time delay.

Because the Congress has had great difficulty persuading the executive branch to build nuclear frigates, the committee added language to the bill requiring that the \$79 million be used *only* for the purchase of the long-leadtime items for DLGN-41 and -42. The committee also incorporated language (such as used by the Congress in 1966 and later years) requiring that the contract for the long-leadtime items be let as soon as practicable unless the President fully advises the Congress that the construction of the nuclear frigates is not in the interest of national defense. This approach by the Congress forced the construction of DLGNs-36 to -40 and the committee believes it is necessary again in order to get the program back underway.

Nuclear aircraft carrier

The President's budget requests \$657 million to complete the funding of the new nuclear aircraft carrier CVN-70. Other items of the

budget request \$52.7 million for escalation and \$11.4 million for outfitting of the *Nimitz* and *Eisenhower*, CVN-68 and -69.

The nuclear aircraft carrier is a fast mobile base for the support of sea-based tactical airpower. The carrier gives the United States the capability to fly ship-based airplanes against some of the strongest land-based airplanes of the Soviets. Circumstances might be such—as they have been in the past—that there would be little or no support from friendly nations or we would be denied the ability to use land-based airfields. At that time it would be necessary to have in the air our strongest naval fighters, the F-14, and the only naval plane able to keep track of and direct an air battle, the E-2C.

Modern nuclear-powered carriers have been designed for these modern aircraft. The deck length, the catapult strength and the arresting gear configuration are all designed together to enable these planes to fly from the deck. In turn, the spaces below deck are designed to provide for the maintenance and supplies of the new aircraft.

The following table is an illustrative example of the relative capabilities of old and modern attack carriers, by class, reflecting single strike capabilities and air ordnance, jet fuel, and steaming endurances without replenishment:

	Hancock	Midway	Forrestal	Nimitz
Commissioning periods.....	1944-50	1945-47	1957-68	1972—
Single strike capability.....	1.0	1.3	1.6	2.0
Ordnance endurance.....	1.0	1.4	2.5	3.8
Jet fuel endurance.....	1.0	1.8	2.6	5.2
Steaming endurance.....	1.0	1.0	1.0	(1)

1 Virtually unlimited.

The carriers are also needed to defend against a heavy attack on our naval forces from cruise missiles that could be launched by the Soviets from the air, surface ships or undersea craft.

The funds sought this year will allow the completion of the fourth nuclear-powered aircraft carrier. This will permit us to station two carriers in the Atlantic and two in the Pacific ready to respond to emergencies in either area. Some have suggested that we can rely upon land base airfields in times of difficulty. However, the number of bases around the world has dropped from 500, which we had just after World War II, to 37. Many of these remaining bases might be denied to us for political reasons in times of crisis. The possible denial of these rights makes it imperative that we keep up our carrier forces as one of our most effective weapons. As the number of carriers in the fleet decreases, it is all the more important that we provide the strongest carrier fleet possible within the numbers permitted to the Navy.

The committee has frequently stressed the importance it attaches to having first-line ships of the Navy nuclear powered instead of conventionally powered. The two nuclear cores in the *Nimitz* deliver energy the equivalent of 11 million barrels of fuel oil. That is the equivalent of a line of tank cars extending from Washington to Boston, close to 500 miles. The two nuclear cores in the new frigates each will deliver the equivalent energy of two million barrels of fuel oil. These are over a life of more than 10 years. This means that the nuclear-

powered ships will be able to operate effectively without any need for fuel for its own propulsion and with only the need for airplane fuel for the planes on the carrier. This releases what would otherwise be a heavy demand for fuel oil on the civilian economy.

Trident

Included in the bill is \$1,527,400,000, the amount requested, for Trident. The Shipbuilding and Conversion portion of Title I includes \$867.8 million; of this amount, \$586.8 million is to complete funding of the first Trident submarine. The balance is for long-leadtime items for three submarines. This request follows the authorization and appropriation last year of \$194 million which was used to buy the long-lead nuclear propulsion items for the first Trident submarine and long-lead-time items for three additional submarines.

The Trident submarine is being planned for introduction into the fleet about 1978. It is planned to be equipped with the Trident I missile which will have a range of over twice the present Poseidon missile. This will enable the Trident submarine to operate in over 4½ times the ocean areas that the Polaris submarines can operate in. This greater area is desirable in order to make it much more difficult to find and destroy our submarine-based ballistic missiles.

The Trident submarine with the Trident I missile system, when it enters the fleet in 1978, will then give the United States equivalent of what the Soviets presently have; a deployed 4,000-mile sea-launched ballistic missile. This capability allows the Soviets to target locations in the United States from areas where the U.S. Navy has a diminished ability to detect and track their submarines.

In addition, the new submarine is being designed to operate much more quietly than our present ballistic-missile submarines, to operate faster and to last longer. Our present ballistic-missile submarines were basically designed out of one class of attack submarine with the hull literally being cut in two and stretched to take care of the missile silos. When they were built the submarines were not expected to have a life longer than 20 years. No ship in the fleet has been worked as hard as the Polaris/Poseidon with its Blue and Gold Crews. Each submarine has generally come in from a mission, replenished its supplies and gone right back out on a new mission, leaving the old crew on shore. The result has been that these submarines have been subjected to more missions and have been longer on station than any other class of ship in the fleet. When the Trident submarines enter the fleet, most of the Polaris submarines they replace will have served 18 or more years. The Trident submarines are being designed to last 30 years despite the increased activity involved in their operation.

Extensive efforts in quieting the submarine are incorporated in the ship. A new reactor design is an important factor in this quieting, as the incorporation of other new modern quieting techniques that have been developed over the years. The size of the ship itself permits the use of many quieting techniques that could not be incorporated in a smaller ship.

The increased speed of the Trident submarine has been incorporated to allow the submarine to break any trail that may be on it. It is also an important factor in helping the submarine to maneuver when necessary for the safety of the ship.

The \$654.6 million in the budget for RDT&E this year is divided between research for the missile and research for the submarine systems.

In both cases the development is that necessary to achieve a fleet operating capability in late 1978.

\$529 million allows the continuing development of a new long-range strategic ballistic-missile weapon system which will be capable of being carried by older submarines as well as the new Trident submarines.

\$125.6 million provides for development effort in support of a new, quiet, highly reliable submarine incorporating an advanced nuclear-propulsion plant, an integrated command and control system and major improvements in underwater acoustic systems.

Admiral Rickover informed the committee that if the submarines are not funded this year as requested, the cost of the first Trident submarine will increase by \$100 million and the cost of the others will increase by comparable amounts. The nuclear components, consisting of huge masses of metal being shaped and formed to meticulous reactor requirements are coming off the production line as planned. Any halt in the production line will not only delay the long-leadtime items for the other submarines, but will increase the cost. In the event this program is not funded, it is not unlikely that the manufacturers of these very complex components will then find it better business to concentrate on the reactor program for private industry than to deal with on-again, off-again programs of the Navy—a matter of significant concern to Navy managers and to the Congress.

<i>Trident</i>		<i>Millions</i>
Procurement :		
Naval vessels	-----	\$867. 8
Missiles	-----	5. 0
Total	-----	872. 8
R.D.T. & E. :		
Naval vessels	-----	125. 6
Missiles	-----	529. 0
Total	-----	654. 6
Grand total	-----	1, 527. 4

Nuclear Attack Submarine—SSN-688

The President's budget requested \$783.2 million to complete five nuclear attack submarines for which the nuclear long-leadtime items were requested last year. In addition, there was a request for \$130 million for advanced procurement for long-leadtime items for another set of five nuclear attack submarines included in next year's program. This is a total of \$913.2 million. There was also a request for \$36.5 million for escalation and \$8.4 million for outfitting for submarines involved in prior-year programs. The full authorization request is recommended by the Committee.

The nuclear attack submarine has been proven to be one of our most effective weapons. It not only can be used against surface ships but also against enemy ballistic-missile submarines. We are moving to convert all our submarine forces as rapidly as possible to nuclear sub-

marines. Those conventionally-powered submarines remaining in our Fleet were built during or just after World War II.

The construction of nuclear attack submarines would have been halted in the late 1960s if the Armed Services Committee had not challenged the construction limitations imposed by the Department of Defense. To counter the 350 Soviet submarines, Defense had settled on an allowance of 69 nuclear attack submarines. Since that time the Soviets have built more nuclear submarines; their total number of nuclear attack submarines in commission or under construction is larger than our total number of nuclear attack submarines.

COMPARATIVE SUBMARINE FORCES (JUNE 1973)

	U.S.S.R	U.S.
Ballistic missile.....	160	41
Cruise missile.....	65	0
Attack.....	215	34
Total.....	340	125
Total nuclear.....	110	101

¹ Includes 30 modern Yankee class submarines. An additional 12 or more ballistic missile submarines are estimated to be under construction with a new Delta class in production. The Yankee class carries 16 SS-N-6 missiles having a range of 1,300 nautical miles and the Delta class is expected to carry 12 SS-NX-8 missiles having a range of about 4,000 nautical miles. Soviets are estimated to have facilities for building 17 nuclear-powered ballistic missile submarines a year. A construction rate of 8 a year will enable them to achieve a force level of 62 Yankee and Delta class submarines by expiration of the initial SALT agreement in May 1977.

DD-963

This year there is a total of \$612.1 million in the bill for the DD-963. Of this sum \$387.5 million is to complete the construction of the seven ships for which long-leadtime items were authorized last year. There is also \$198.3 million for advanced procurement for long-leadtime items for the final seven destroyers required for which full authorizations will be requested next year. There are also provisions for \$21.2 million for escalation and \$5.1 million for outfitting for a total of \$612.1 million for DD-963.

Litton Industries has advanced its program for the construction of the DD-963 destroyers by half a year. There has been some small delay from this advanced schedule. However, all of the contractual milestones are being met on or ahead of schedule and the construction of the first DD-963 hulls is proceeding apace. The Navy told the committee that it had to have all of these funds for the DD-963 this year in order to meet the contract requirements for funding. Otherwise Litton Industries would be able to say that Navy had breached the contract and it could ask for additional funds to complete the program. While the committee would like to have had another year in which to see whether Litton will be able to complete the DD-963s on time, within cost and to specifications, it did not want to force Navy to break the contract. Hence, the committee approved all of the funds requested this year.

LHA

The LHA program continues to be beset by problems. The committee was informed that there would be additional delays in the delivery of the LHA ships. The two items in this year's shipbuilding program involving LHA are cost growth (going from target to ceiling), \$103.8 million, and escalation, \$65.4 million, for a total of \$169.2 million. The committee was informed that these are contract obligations which need to be paid in order to force Litton Industries, the builder, to complete the five ships within the terms of the contract. The amount of escalation was reduced on March 1, 1973 by \$22.7 million by the contracting officer's decision, and the committee accepted this reduction.

SSBN conversions

Originally the President's budget required \$351.5 million for the conversion of five ballistic-missile submarines from Polaris to Poseidon missiles. Since there had been advance procurement of \$121.7 million, this left a total of \$229.8 million requested this year. The committee noted the large number of reprogrammings by which the

Navy had taken out 15 percent of the funds of this program and applied them to other programs over a period of years. Hence, it concluded that the program had been amply financed in the beginning and was also well managed. With this background the Committee was prepared to make reductions in this account.

Subsequently, it was brought to the committee's attention that Mr. Clements, the Deputy Secretary of Defense, had decided that it would be possible to remove \$113.6 million from this program in order to provide a major part of the funds of the \$150 million for the prototype flyoff for the stripped down F-14 and F-15 airplanes. Since Mr. Clements' action indicated the \$113.6 million was not absolutely necessary for the SSBN program, and since the committee had rejected the F-14/F-15 prototype proposal, the committee deleted the \$113.6 million which together with the \$36.3 million reduction previously mentioned under discussion of the DLGN's, leaves \$79.9 million in the conversion program.

The M60A1 Tank

The bill contains \$18.2 million for advanced procurement of long-leadtime components for the M60A1 tank. Approximately half of the tanks will be an improved version of M60A1 to be designated M60A3. Technical problems have arisen in the fire-control components of the improved version; and while corrective action has been initiated, the result will be a slippage of approximately 6 months in the fielding of the product improved tank. Because of the slippage and consequent delay in the introduction of the M60A3 version, the full advanced-procurement funding initially requested will not be required in fiscal 1974.

At the same time requirements for other portions of the program were determined to be somewhat understated. The changes, however, allowed for a net reduction of \$8.4 million below the \$26.6 million initially requested by the Army.

The committee, therefore, approved the level of authorization at \$18.2 million.

The XM198 Towed Howitzer

The bill contained a request for \$3.5 million for long-leadtime procurement for the XM198 towed Howitzer. In addition, \$5,976,000 was requested in RDT&E funds for this weapons system for a total of \$9.476 million.

During the course of the hearings it was determined that technical problems had developed in a number of items in the R&D prototypes of the weapon. It was determined that these problems would delay the system to such an extent that long-leadtime items would not be required in fiscal year 1974 and, therefore, could be eliminated from the bill.

Further review by the committee determined that the committee could not with confidence continue the funding for the proposed system.

The purpose of the program is to extend the range of the weapons system. The committee learned that ammunition has been developed that achieves the desired range using existing weapons.

The committee has, therefore, deleted all of the R&D, as well as all of the procurement funds for the XM198.

M-16 Rifle

The bill contained a request for \$3.1 million for procurement of 31,000 M-16A1 rifles for the Army. The analysis by the Committee determined that the procurement request was based on a desire to maintain a warm production base and did not reflect a valid requirement for the Army. The Committee also determined that the initial request had incorrectly stated the projected unit cost of these rifles, and that, therefore, the authorization would have had to be increased to procure the number of rifles requested.

In the view of the Committee the Army presently has an adequate inventory of M-16 rifles. The Committee, therefore, denied the \$3.1 million authorization request.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

The following tabulation compares the amounts authorized and appropriated for research, development, test, and evaluation in fiscal year 1973 with the amounts requested and recommended by the Committee for fiscal year 1974.

[In thousands of dollars]

Research, development, test, and evaluation	Requested fiscal year 1973	Authorized fiscal year 1973	Appropriated fiscal year 1973	Requested fiscal year 1974	Committee recom- mends
Army.....	2,122,716	1,978,966	1,829,032	2,108,700	2,031,686
Navy (and Marine Corps).....	2,816,787	2,708,817	2,545,213	2,711,700	2,675,300
Air Force.....	3,262,177	3,272,777	3,122,940	3,212,500	3,110,811
Defense agencies.....	520,087	505,987	435,313	525,000	504,000
Director of test and evaluation, Defense.....			27,000		
Emergency fund.....	50,000	50,000	0	0	0
Total, R.D.T. & E.....	8,771,767	8,516,547	7,959,498	8,557,900	8,321,797

¹ Includes \$2,600,000 for special foreign currency program for Navy under R.D.T. & E. authorization.

² Includes \$24,600,000 for the activities of the Director of test and evaluation, Defense.

The fiscal year 1974 budget request for research, development, test, and evaluation of \$8,557,900,000 is \$41,353,000 more than was authorized by the Congress for fiscal year 1973. The amount recommended by the Committee, \$8,321,797,000, is \$236,103,000 less than was requested by the Department of Defense for fiscal year 1974 and is \$194,750,000 less than was authorized by the Congress for fiscal year 1973.

The reductions of \$77,014,000 recommended in the Army and \$101,689,000 in the Air Force budget requests are made on a specific program basis whereas the \$36.4 million reduction for the Navy and the \$21 million reduction for Defense Agencies should be taken on the basis of defense priorities.

TECHNOLOGICAL BASE

The Committee agrees with the position taken by the Secretary of Defense and the Director of Defense Research and Engineering that it is essential for the United States to maintain a technological base

which is superior to that of potential adversaries. Testimony was received by the Committee that the Soviet Union is making a determined effort to surpass the United States in technological achievement. The Soviets can take obvious advantage of open Western societies, while the United States and our allies can have only incomplete knowledge of Soviet progress. Defense witnesses indicated that because of this closed versus open society, the United States needs an adequate, long-term level of research and development funding if we are to avoid technological surprises and maintain a reasonable margin of technological superiority in key areas important to the over-all military balance.

Our technology base is comprised of research, exploratory development, and portions of advanced development in the research, development, test, and evaluation budget. It includes the exploration of science and engineering to find applications of military worth. Defense witnesses testified that this technology base is needed to open up new avenues of technology that make possible significant improvements in current weapons systems or in entirely new kinds of systems. It is needed to reduce the cost of current military equipment and to help make effective use of military personnel.

Because of the importance and the necessity of maintaining an adequate technology base, the Committee recommends authorizing the full amount requested for this area.

ACCOMPLISHMENTS FROM TECHNOLOGY BASE

Often Members of the Committee are questioned about accomplishments from the defense technology base as well as the balance of the Defense research and development expenditures over the years. At the Committee's request, the Office of the Director of Defense Research and Engineering submitted information on accomplishments from the defense technology base along with examples of civilian spin-off from defense research and development programs. The information submitted follows:

DIRECTOR OF RESEARCH AND ENGINEERING,
Washington, D.C., March 23, 1973.

Hon. MELVIN PRICE,
*Chairman, Subcommittee No. 1, Committee on Armed Services, U.S.
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: Several weeks ago you mentioned to me that examples of accomplishments from the defense technology base, written in non-technical terms, would be of use to your committee. We have compiled such a list, and enclose it herewith. A number of these achievements undoubtedly will find application in the civilian sector.

Basic and applied research, by its very nature, is carried out by small teams or project groups. As a result, there are some 20,000 projects comprising the defense technology base. Describing the technology base in terms of a few dozen of these projects—for example, in terms of the project examples enclosed—is a little like trying to describe a supermarket by displaying a few of the items “on special”: A can of peas, a jar of peanut butter, a box of soap. “That’s a supermarket?” The answer is, of course, “No, that is not a supermarket. The ‘specials’

are only representative, and don't give a perspective of the scope and magnitude of the store as a whole, or of the many quality products on its shelves." In a similar fashion, it is difficult for the attached examples, even though they represent significant achievements, to portray the scope and magnitude of the base, or to give an indication of the large accumulative value which accrues from many small research efforts over a period of time. Let me illustrate the latter by an accumulative example from the medical field:

VIETNAM CASUALTY RATES COMPARED TO KOREAN EXPERIENCE	INCREASED VIETNAM COSTS IF KOREAN RATES HAD PREVAILED
44 percent lower battle death rate	22,000 deaths, \$385M death benefits
28 days shorter average hospitalization of wounded	12,000 man-years, \$210M hospital costs
25 percent reduction in wound disability separations	3800 men
15 day reduction in hospital stay for malaria	2,500 man-years, \$115M in hospital costs
50 percent reduction in wounded having amputations	3000 limbs

In addition, within the span of the Vietnam War itself, both the incidence of malaria and the mortality from burns were reduced by 50%. These changes, brought about solely by technology base effort carried out over a period of years, are dramatic, representing a saving in lives, hardship, and funds of great value. Yet, examples taken from any one year might not seem very startling because the accumulative value is not portrayed by the example. This accumulative value runs through all of the technological and scientific fields comprising the technology base. Citing just two examples: the 1970 jet engine has triple the thrust to weight ratio of its 1950 counterpart (with a resultant very large impact on aircraft capability), and the 1970 large number-crunching computer provides more versatility and capability than one could even imagine from a consideration of its 1960 counterpart.

I hope the comments above on how examples from the technology base fit into the overall picture, and the examples, themselves, will be of value to you. The examples have been categorized in 5 main areas of support for the Armed Forces.

Sincerely,

GUS D. DOROUGH,
Deputy Director (Research and Advanced Technology),
 (For John S. Foster, Jr.,
 Director of Defense Research and Engineering).

SUPPORT FOR MILITARY PERSONNEL

Military dogs are an essential element of DoD security police activities. Common canine diseases such as hook worm and heart worm result in costs to the government in both non-availability for the dogs for duty and veterinary medical care. New treatments for these infections have decreased their occurrence in DoD dogs by about 50 percent and cut the cost of treating infected dogs from \$40 to \$5.85 per dog.

Severe burns are common in combat and in training accidents, resulting in many deaths. The DoD burn research program has led the world in producing new treatments for burns. One development was a new antibiotic ointment to cover burns. The cumulative result of this research program is that deaths from burns in the Armed Forces have been cut by 50 percent since 1965.

Induction of poorly suited recruits into the military services is very costly in terms of wasted training time, disciplinary problems and ineffectiveness in assigned duties. A 10-year Navy research program on psychiatric screening developed some simple guidelines by which recruiters can forecast success in first enlistments, thereby screening out poor risk recruits. The Navy estimates costs of about \$6 million per year, that would be incurred if these men were inducted and then prematurely separated, that are avoided.

Better methods for collecting, quantifying, organizing and reporting data about the properties of Air Force enlisted jobs were developed. These new methods have been used to restructure military training courses, yielding a \$4.7M cost avoidance in FY 73.

A new Army helicopter synthetic flight training system device, conceived and developed as a technology base effort, has now been subjected to operational suitability testing. Students participating required 37 hours less than the customary training required to qualify for an instrument rating, resulting in a cost avoidance of \$4,500 per trainee.

MOBILITY

The first advanced aircraft auxiliary power unit development in more than a decade was recently completed. The program demonstrated a new unit capable of producing 150 horsepower per cubic foot—over twice that of the most advanced operational unit at a 20 percent lower specific fuel consumption. These power units are used for starting aircraft and other ground operations where external power is required.

New chassis suspension systems for tracked vehicles were recently demonstrated which will make it possible to increase the average cross country speed of these vehicles from the present 10-12 mph to a remarkable 30 mph.

A computer simulation technique has been developed by the Army which predicts cross country speed of any wheeled or tracked vehicle, in any terrain. This capability, not previously available, will permit a more precise assessment of military ground vehicle needs. As much as a 25 percent reduction in the Army's fleet of wheeled vehicles may be realized without a significant loss of capability. A large savings in acquisition and maintenance costs would result.

The engine selected for the Army UTTAS helicopter is a direct outgrowth of the Army technology base's demonstrator engine program. This research technology program is also an example of the fly-before-you-buy concept.

A new fire extinguishing system was demonstrated for use in aircraft that is two to three times more effective than standard equipment now in use. This new fire extinguisher will significantly shorten the time to extinguish a flame.

A joint Air Force-Navy program developed a solid state power system and incorporated it in a full-scale aircraft electrical system simulator. Successful operation resulted in the system being selected for the B-1, at a saving of some 40 miles of wiring per airplane.

The Army has developed a technique for sealing the soil under roads against moisture. Native soil can be substituted for crushed rock and cement in constructing roads and air strips. The technique is already saving millions of dollars in construction of B-52 bomber dispersal runways. It will double the road construction rate of an engineer battalion.

WEAPONS TECHNOLOGY

An aimable warhead for air-to-air and surface-to-air missiles has been demonstrated using selective guidance controlled techniques. This warhead, which can project its lethal effects in a preferred direction, should provide a 30 percent greater effectiveness of these weapons.

One of the major limiting factors to the range of smaller caliber ammunition is atmospheric drag. The Army has demonstrated a new design incorporating a "gas generator" on the base of the projectile which reduces the drag by 60 percent. This concept will provide increased range for small caliber ammunition.

A new solid missile propellant binder has been developed which can lead to savings of thirty cents per lb. in propellant costs—\$3 million can be saved in the purchase of SAM-D motors alone. This solid propellant has more propulsive energy per pound and has better storage capabilities than current propellants.

Improved thrust control methods for solid rockets have been demonstrated. This new technology can increase several-fold the target intercept capability of future long-range surface-to-air missiles.

COMMAND, CONTROL AND TARGET ACQUISITION

An inexpensive radar power tube has been developed for use in an advanced ballistic missile defense radar. The new tube can be produced for less than \$100 vs. at least \$350 for its nearest competitor, and would reduce costs of an ultra reliable ballistic missile device radar system by at least \$11 million.

A serious deficiency in our ground forces is the lack of secure voice capability in field radios. Current radios, without secure voice, weigh 25 lbs. If the secure voice capability were to be added to these radios, using conventional integrated circuit technology, the weight of the radio would approach 50 lbs, making it unsuitable for carrying by the infantryman. Introduction of a new type of integrated circuit, which significantly reduces power consumption, will now permit the design of a radio with voice security that will weigh only 12 or 13 lbs.

A new solid state electronic component, known as an acoustic surface wave device, is currently being demonstrated in several defense applications. One such device, the size of a tiny chip and costing \$300, can replace a radar component currently in use that occupies a volume of 72 cu. in. and costs approximately \$3,000. Each Air Force AWACS radar will use 26 of these devices.

The use of fiber optics in aircraft to replace electric wiring will be demonstrated by the Navy in an A-7 aircraft. In this program, 4,832

feet of wire weighing 82 pounds and costing \$7,900 per aircraft to install, will be replaced with 832 feet of fiber optic cables weighing 13 pounds and costing \$2,100 per airplane. In addition to the savings which result, the fiber optics are immune from interference problems encountered in conventional wired systems.

Low light level television cameras are used in several defense applications, such as guidance for electro-optical bombs and night vision systems. Recent advances in defense research in solid state electronics technology indicate that size and cost of these cameras can be reduced to 10 percent of their current values. In addition, these new systems will be far less fragile and therefore more reliable.

SUPPORTING SCIENCE AND TECHNOLOGY

A new steel armor material has been developed which promises to provide the same protection at one-eighth the cost as the armor material now under consideration for use in helicopters and land vehicles.

The Army has developed a technique for testing the fatigue life of cannons which eliminates most of the live firings previously required. The technique, which uses pressurized hydraulic fluid, cost \$3 million to develop. It is estimated that \$26 million can be saved during the development of four new cannon tubes.

Exploratory Development has brought along new materials developments with excellent strength to weight and other properties. For instance, the use of metals and plastics containing ceramic or graphite fibers (so-called composites) permits weight savings of about 40 percent and at the same time results in improved fatigue and corrosion resistance. The F-14 and the F-15 use one of these materials in the tail surfaces which will result in greatly improved performance.

CIVILIAN SPIN-OFF FROM DOD R. & D.

The Defense Department conducts an extensive R. & D. program in support of the national defense. Although meeting defense requirements is the sole objective of this endeavor, products of this work have, over the years, made significant contributions to the civilian sector of our economy.

These contributions range from the concept of chlorination of water supplies to the wide body airframe and engine technology of commercial jumbo jets. They include such ingredients of modern life as the transistor, German measles vaccine, and the jet engine. DoD sponsored scientists did not "invent" all of these items, but the presence in the civilian world of these inventions is nevertheless directly traceable back to R&D efforts sponsored by the DoD.

There are two separate processes by which DoD makes technology-intensive products available to the civilian market. The first process is simply that of invention. Radar, a military invention now an essential part of civilian traffic control, is a single example. The second process may be termed "industrialization." In terms of total economic impact, this process is probably much more important. For example, DoD did not discover aluminum, but its need for aluminum for aircraft led DoD to undertake work which made possible the production and fabrication of the material, and which provided much basic en-

gineering design data for its use. DoD also supplied an original market large enough so that production economies developed by the industry could in time make aluminum competitive in countless consumer products. The same situation seems to be developing for titanium and composite materials. In electronics, DoD invented neither the transistor nor micro-integrated circuits, but DoD demand for the products, and DoD support of production technology, soon reduced unit cost to the point that they could be profitably used in the civilian market.

Similar examples can be given in every discipline of technology. By way of example, consider briefly the areas of aeronautics, electronics, materials and medicine.

Aeronautics

Over the years most of the aviation developments first achieved in military programs have been utilized by the civil sector. The list of these achievements is quite lengthy and includes weather analysis and forecasting and aviation medicine, as well as conceptional and hardware contributions exemplified by swept wings, cabin pressurization, aviation fuels, and turbine engines. The most recent major transfer to the civil sector is the wide body airframe and engine technology stemming from the C-5A program, and now being used in the Boeing 747, McDonnell Douglas DC-10 and Lockheed L-1011 transports. Another major spin-off from the military is the inertial navigation system derived directly from military programs which provides simpler, more reliable and adequately accurate navigation for the civil airlines. Military R. & D. programs currently underway which are expected to find significant civil application include "fly-by-wire" control systems which will result in lighter, less expensive, and more easily maintained civilian airliners; and VTOL technology which may dramatically advance the state-of-the-art in inter-urban transportation.

Electronics

The DoD technology program in electron devices has resulted in contributions which have had significant impact on the civil sector. As an example, growth in semiconductor technology has been paced by DoD sponsorship. Defense needs fueled the development of the transistor and integrated circuits to the point where these devices became cost-effective for such commercial applications as radios, TV's, phonographs, automobiles and digital computers. Solid state devices and integrated circuits have been responsible for improving the capability and lowering the cost of computers which impact daily in business, scientific research and industrial processes. Support is continuing in this area to improve performance, reliability and to lower costs.

Current programs underway in the areas of night vision, information storage, microwave devices, information display and sensors may have potential impact and importance in such non-defense areas as crop damage detection, medical diagnosis, computer-aided instruction, public safety, and traffic management.

Materials

Materials technology is another area wherein the DOD has made major impact on the civil sector. The new titanium industry is a direct consequence of DOD-sponsored materials research and development. Starting about 1948, the Army, Navy and Air Force each sponsored a

substantial research, development and experimental application effort on this metal. The impetus for this work was the potential of titanium alloys to become the strongest structural alloys known in proportion to their weight, with the added bonus of high corrosion resistance.

The expectations were fulfilled. Today, titanium alloys are used in both military and civilian aircraft, in both the air frame and in engine compressor stages. Its corrosion resistance has put it into such civilian applications as food and chemical processing. Uses in the near future will include desalination plants and steam power generating equipment as well as equipment for the transportation industry. An additional payoff of the titanium program has been the development of vacuum melting, a process which has advanced the technology of materials processing in general.

Another example in the field of materials is the development of glass reinforced plastics (GRP)—the first important milestone in the field of composites for military use. Rocket cases of both stages of the Polaris missile, as well as the third stage of the Minuteman, now contain this material. In addition, a number of pressure vessels, small missile cases, gun tubes and small surface craft are manufactured from GRP. These military developments have spurred the use of GRP in boats, truck cabs, trailer bodies, geodesic structures, and fishing poles. Filament winding of glass-reinforced plastics, initiated strictly for military use, is now used for shotgun barrels, pipe, battery cases, storage tanks, and aerial booms for utility trucks. Glass-flake reinforced plastics are found in electrical insulation and polyethylene laminates in waterproof liners and containers. It is estimated that in the next five years there will be a growth of over 300% in the commercial use of glass-reinforced plastics.

Medicine and biotechnology

Passengers in an airliner with a pressurized cabin making an instrument flight—a young woman receiving German measles vaccine—a camper spraying mosquitoes in his tent—the man who unbuckles his seat belt and walks away from an auto accident, are probably unaware of their debt to military medicine. Likewise, medical professionals usually are unaware of any military medical origin of such diverse matters as the Weather Bureau, the National Library of Medicine, routine physical examinations, mass immunizations, and community psychiatry.

Some lines of military medical research are easily translated into the civil sector—knowledge related to infectious disease or trauma moves fairly easily. A greater lag occurs in preventive, occupational and environmental medicine. For example, the shoulder harness was routine in military aircraft for many years before it became available in an automobile.

Several main lines of biomedical research which have been productive of useful civil application are as follows: Service infectious disease research began with mass vaccination for smallpox in 1777, and was followed by work leading to the control of typhoid, hookworm, and yellow fever. World War II saw the formulation of a malaria program which discovered much of the biology of malaria, developed a cure for two types of malaria, brought synthetic antimalarial drugs into use, and provided a management model for post-war civil research

in cancer chemotherapy and antibiotic research. DDT and other insecticides added to chemoprotection and brought about major world health improvement.

Military research with one of the WWII developed antibiotics (penicillin) showed a way of preventing rheumatic fever and showed broad spectrum antibiotics worked against typhoid, typhus and scrub typhus. More recently, new drugs to control chloroquine-resistant malaria have been developed and effective vaccines for typhus, Venezuelan Equine Encephalitis, adeno-viruses and meningococcus have been produced. A modern fluid therapy for cholera has been introduced, lowering the death rate from 50% to about 1%. Military research in the management of severe burns is world-famous and has resulted in wide acceptance of a rational fluid therapy, grafting, sulfamylon and other techniques to control infection. The military benefits of all this research are dwarfed by the impact on world health in general, with literally millions of lives saved annually.

The military concern with heat injury and cold injury has produced important understandings of human physiology under these stresses, and practical heat load and cold chill guides for industrial and public health applications. Much cold weather gear, e.g., thermal boots, is an outgrowth of this work.

Recognition of undersea medical research will grow as civil exploration of the sea bottom increases. Already DoD research has provided improved diving and decompression tables, better scuba and diving equipment, and has evolved treatments for decompression sickness.

Military aviation medicine had its beginning in WWI, and has been a cornerstone of civil aviation and space programs since. Research in physical standards, cockpit design, hypoxia, vision, pressurized cabins, flight illusions acceleration and instrument flying have fed directly into civil aviation. The early work in weightlessness pressure suits, remote telemetering, artificial atmospheres, greatly supported the civil space programs, and have been applied to civil medical practice (monitoring units, remote diagnosis, physiology of bed rest).

SUMMARY OF ADJUSTMENTS TO FISCAL YEAR 1974 R.D.T. & E. AUTHORIZATION REQUEST RECOMMENDED BY THE COMMITTEE

	Fiscal year 1974 request	Committee changes	Committee recommendations
Army.....	\$2,108,700,000	—\$77,014,000	\$2,031,686,000
Navy (including the Marine Corps).....	2,711,700,000	—36,400,000	¹ 2,675,300,000
Air Force.....	3,212,500,000	—101,689,000	3,110,811,000
Defense agencies.....	525,000,000	—21,000,000	² 504,000,000
Total. R.D.T. & E.....	8,557,900,000	—236,103,000	8,321,797,000

¹ Includes \$2,600,000 for special foreign currency program for Navy under R.D.T. & E. authorization.

² Includes \$24,600,000 for the activities of the Director of test and evaluation, Defense.

BUDGET ACTIVITIES

The research, development, test, and evaluation budget is presented in eight budget activities. The amounts indicated under each activity by departments reflect the funds requested by the Department of Defense. The breakdown by budget activities follows:

1. *Military sciences:*

	<i>Thousands</i>
Army -----	\$187,400
Navy (including the Marine Corps) -----	¹ 141,200
Air Force -----	134,600
Defense agencies -----	57,339

¹ Included in this amount is \$2,600,000 for Navy research which is a portion of the fiscal year 1974 special foreign currency program.

Army: This budget activity covers the functional areas of research and exploratory development relevant to meeting the technological needs of the Army. It includes efforts ranging across all major scientific disciplines—physical, environmental, mathematical, psychological, social, biological, and medical. Technological investigations are also included in areas such as materials, warheads, nuclear effects, combat support, and military engineering technology. Major program components of this activity which are separately identified by the Army are the Defense Research Sciences and the In-House Laboratory Independent Research Programs. Overall, the Military Sciences budget activity supports about two-thirds of the Army's technology base. Work is carried on by in-house laboratories, other federal agencies, universities, and industry.

This work is done under numerous research projects and tasks.

Navy (including the Marine Corps): For the Navy, this budget activity consists of two areas of efforts, research and studies and analyses.

In-house laboratory independent research provides a principal means to stimulate original work in science and technology related to their missions and the interests of the Navy. Objectives are to initiate challenging research, capitalize on ideas germinating out of phase with budget cycles, enhance the competence of in-house laboratories, and attract and retain talented and creative scientists.

The Defense Research Sciences Element provides funds to government and non-government research activities for the performance of scientific study and experimentation directed toward increasing knowledge and understanding in those fields of the physical, engineering, environmental and life sciences directly related to long-term naval needs. Effort is divided into fourteen subelements identified with specific scientific disciplines such as General Physics, Nuclear Physics, Chemistry and Mathematical Sciences.

In addition to Research, various studies are conducted for both Navy and Marine Corps under this budget activity. Studies and Analyses Support and Center for Naval Analyses provide technical and operational analyses to determine requirements for weapons systems, tactics and the basis for decisions with respect to new concepts, potential threats, military effectiveness, and problems in personnel.

Air Force: This budget activity provides funds primarily for defense research sciences, environmental and materials research which are relevant to the mission of the Air Force. Funds are used to obtain basic scientific knowledge and provide technical investigations for potential application to the solution of known or anticipated Air Force requirements.

The defense research sciences program is a continuing program to achieve knowledge and understanding of scientific phenomena which

may solve the many problems involved in the development and maintenance of a superior Air Force. This program also includes funding for operation of the Air Force Cambridge Research Laboratories, the Aerospace Research Laboratory, the Frank L. Seiler Laboratory and the Air Force Office of Scientific Research.

The Environment Program covers the acquisition of geophysical and astrophysical information and the development of related techniques for the application of this information to Air Force engineering and operational problems of Aerospace Systems.

The objective of the Materials Program is to develop new or improved aerospace materials and to discover new ways to use materials to a better advantage. This program also provides for the operation of the Materials Laboratory, a central Air Force agency knowledgeable in all materials which can provide a quick reaction capability to solve operational problems involving materials technology application.

Defense Advanced Research Projects Agency.—In the past year, the Defense Advanced Research Projects Agency (DARPA) was established as a separate Defense Agency. Heretofore, DARPA functioned as an integral part of the Office of the Director of Defense Research and Engineering. The change in organizational structure permits a clearer delineation of its functions and responsibilities. The Department of Defense has restored the full focus of DARPA's work to basic research and exploratory development and has put applied research and program management back into the Services.

DARPA has the flexibility and capability to react quickly on items of new interest. Long-term commitments are not the rule in DARPA programs; rather, its function is to act as a leader and catalyst, demonstrating military potential as fast as possible. If a program undertaken by DARPA is successful, the findings are transferred to the Military Departments. In general, DARPA's programs emphasize research in areas that reach farther into the future than those normally undertaken by the Services and explore areas in which the technology is not well in hand. These areas need innovative approaches to technology.

DARPA's fiscal year 1974 programs in this budget activity approximate \$41 million with emphasis in the areas of materials sciences, human resources research, and information-processing techniques.

Technical Support to Secretary of Defense and Joint Chiefs of Staff.—Funds in this budget activity support the Weapons Systems Evaluation Group (WSEG) which conducts operational research analyses and evaluations for the Joint Chiefs of Staff, for the Office of the Director Defense Research and Engineering and for other elements of the Office of the Secretary of Defense as authorized by the Secretary of Defense. The funds will support the WSEG study program in two ways: (1) to pay for contractual services in the Institute for Defense Analysis (IDA), and (2) to pay for contractual services in private companies. WSEG provides the funds for all outside operations research for the Joint Chiefs of Staff.

This budget activity also supports studies on those political-military, arms control, and economic matters which have a direct relevance to the charter and responsibilities of the Office, Assistant Secretary of Defense (International Security Affairs).

<i>2. Aircraft and related equipment:</i>		<i>Thousands</i>
Army	-----	\$301,400
Navy (including the Marine Corps)	-----	252,000
Air Force	-----	1,226,000

Army: The Army budget activity for aircraft and related equipment includes research, development, test and evaluation of aircraft systems, subsystems, components and supporting developments to improve the combat effectiveness of Army aviation operations in support of the ground forces.

Major aircraft systems developments and improvements include: development of a new Advanced Attack Helicopter (AAH), the design of which will stress flight handling qualities and hover performance, two characteristics that will form a sound foundation for the integration of a Cannon, an Anti-tank Missile, Night Vision equipment, and other mission essential items; component development for a future heavy lift helicopter and fabrication of a prototype aircraft to demonstrate technical feasibility; and development of the Utility Tactical Transport Aircraft System that will be able to lift an infantry squad over 85 percent of the earth's land mass giving our infantryman tremendous battlefield mobility.

Supporting developments and application of new and improved techniques are conducted in the areas of: engines and propulsion components; weapons, night vision and fire control; avionics; survivability; reliability and maintainability and air drop/aerial delivery equipment. A particularly significant achievement has been the development of crashworthy fuel cells which have been so successful in reducing post crash fires that the majority of the fleet has been retrofitted with these cells; they will be included in all future aircraft development.

Committee changes: Army

Utility Tactical Transport Aircraft System (UTTAS).—The Committee recommends a reduction of \$6.2 million from the \$108,825,000 requested for the Utility Tactical Transport Aircraft System (UTTAS). This reduction can be made because of a reduction of six in the number of prototypes. The decrease was directed by the Congress in the fiscal year 1973 authorization Act. The Army's efforts to justify restoration of these prototypes in the fiscal year 1974 budget failed to convince the Committee and the additional funds are denied.

Navy (including the Marine Corps): For the Navy, this activity finances research, development, test, and evaluation related to airframes, engines, airborne detection, fire control equipment and electronic warfare equipment, aerial targets and additional related systems and equipment.

The major efforts in FY 1974 are related to sea control with the V/STOL aircraft and the LAMPS helicopter and to the high performance fighter aircraft F-14.

The V/STOL for Sea Control Ship prototype effort will validate new V/STOL technology by the design, development, construction and flight test of the Augmented Wing Fighter-Attack prototype aircraft. This vehicle will provide surface surveillance and a strike capability when operating from the Sea Control Ship. In FY 1974 design and

fabrication of the first two flight aircraft will continue. The related sea control effort Light Airborne Multi-Purpose System (LAMPS) using a helicopter equipped with electronic detection equipment will be able to detect and identify missile firing surface platforms beyond the surface detection capability of the parent ship, and will provide re-detection, classification and ASW weapon delivery out to the maximum destroyer sonar detection ranges. In FY 1974 component Technical Evaluation will be conducted by test flying airborne systems in a H-2 helicopter and evaluating ship equipment in specially configured vans.

The F14A aircraft will operate as an airborne combat air patrol or deck launched interceptor. It will be equipped with Phoenix, Sparrow and Sidewinder missiles with a gun. In FY 1974 Navy will support Technical and Operational Evaluation and Board of Inspection and Survey tests. Efforts will continue on the advanced technology engine for the F14B aircraft with flight tests in FY 1974.

The S3A carrier ASW aircraft will replace the S-2 which will have been in service in excess of 20 years at the time of S3A deployment. Two high by-pass ratio turbofan engines give the S3A speed and altitude capability plus economical operations at the low altitudes required by ASW. This coupled with the latest ASW sensors will permit the S3A to counter the advancing Soviet submarine threat.

Another important effort, the CH-53E program, will develop a shipboard compatible helicopter intended for the lift and movement of cargo and troops/passengers internally, the tactical recovery of downed aircraft, the lift of heavy bulky equipment and other heavy lift duties. The CH-53E lift will increase to 16 tons by the incorporation of three engines, a canted tail and horizontal stabilizer and a large rotor with an additional blade. Two development prototype aircraft will be completed in FY 1974.

Work is also conducted, in addition to these programs, in the areas of Air ASW and Electronics Warfare equipments, aerial targets and propulsion systems.

Air Force: This budget activity provides for the research, development and certain costs associated with the test of aircraft and their related equipment. Included are costs for A-10 aircraft which is designed to provide accurate and timely fire support for ground troops. In fiscal year 1974, drag reduction studies and mating of the GAU-8 30mm gun with the A-10 airframe are two primary goals.

Funds are also requested to cover the F-15 which is an all weather air superiority fighter capable of engaging and destroying any known aircraft. During fiscal year 1974, F-15 test aircraft are planned for delivery with primary emphasis on Air Force flight evaluation.

The B-1, a long-range strategic bomber to replace the present B-52 aircraft, will include the latest technology to permit it to penetrate all known or contemplated defenses. It is scheduled for first flight during the middle of calendar year 1974.

The Advanced Medium STOL Transport (AMST) prototype which will demonstrate applicable new technology and offer additional engineering development could provide a low cost development option for the modernization of the tactical airlift force in the early eighties. While the AMST is being developed to satisfy tactical transport re-

quirements, technology from this program is expected to have direct carryover into civilian STOL applications.

The conceptual and preliminary design of the Advanced STOL prototypes will be completed. These efforts, through future flight tests, will lessen the technology risks and provide decision makers with possible production options based on demonstrated hardware.

Also included are developments involving airframes, avionics, ECM (EF-111A), power plants and other aircraft related equipment. This activity also provides funding for the Aerospace Flight Dynamics, Biotechnology, Propulsion, and Avionics Exploratory Development Laboratories.

Committee changes: Air Force

Subsonic Cruise Armed Decoy (SCAD).—The committee was concerned that the unit cost of SCAD had grown to the point that the cost effectiveness of the decoy was seriously questioned. The decoy was planned to be deployed on less than half of the B-52G/H aircraft force and was not programmed for the FB-111, the B-52D's or the B-1 aircraft. In addition, there was lack of decision on the part of the Defense Department to arm the decoy. For these reasons, the Committee, on the advice of its R & D Subcommittee, was prepared to recommend deletion of the entire \$72.2 million requested and termination of the program.

During full Committee markup of the bill, a letter was received from the Deputy Secretary of Defense announcing his decision to terminate engineering development of the SCAD program "inasmuch as its projected cost is incommensurate with its currently perceived benefits." The Deputy Secretary further announced that the SCAD "will be replaced with a vigorous technology program which will not only keep alive an option to undertake development of SCAD or other appropriate penetration systems with a minimum of lead time should the threat to bomber penetration develop more rapidly or more acutely than anticipated, but will also provide for a subsonic cruise missile."

Secretary Clements requested \$22 million to support the technology program proposed. The Committee reduced the SCAD budget request by \$50.2 million and recommends authorization of the \$22 million requested for the new technology program.

Light-weight Fighter Prototype.—The Committee recommends a reduction of \$6.5 million from the \$46,500,000 requested for this program. One of the prototype fighters plans to utilize the F100-PW-100 turbofan engine being developed for the F-15 aircraft. This engine program failed to meet the military qualification test milestone and continues to experience failures in ground tests. Because of these failures it is believed that the engine program will be delayed. Any delay in the engine development program could have an adverse impact on the prototype aircraft program. Therefore, the Committee recommends a more conservative approach with a slight stretchout in this development program. However, should the engine development programs be satisfactorily resolved in the near future, the Committee would consider reprogramming funds to restore the program to its original schedule.

3. *Missiles and related equipment:*

	<i>Thousands</i>
Army -----	\$967, 200
Navy (including the Marine Corps) -----	921, 900
Air Force -----	292, 400
Defense agencies -----	72, 500

Army: Included in this activity is \$336,000,000 for SAFEGUARD ABM System and Site Defense. In addition, \$100.0 million is for the Advance Ballistic Missile Defense development program. The purpose of this program is to provide qualitative improvement in ballistic missile defense technology and components to cope with the growing spectrum of threats. Also included in this budget activity are the funds needed to support the test and evaluation of weapons systems conducted at Kwajalein and White Sands Missile Ranges. These Army managed national ranges support test programs of all services including the Army's SAFEGUARD, Air Force's MINUTEMAN, the Navy's POLARIS at Kwajalein, and the Air Force's SRAM and ATHENA, NASA programs, and several Navy tactical missiles at White Sands.

Other Army weapons programs for which significant development funding was requested include: the surface to air missile, SAM-D, which will replace the NIKE HERCULES and HAWK Air Defense Systems; development of a manportable air defense system, STINGER, to replace REDEYE; continued development of the terminal homing concept which is directed toward defeating tanks, armored personnel carriers, field fortification, air defense sites and other point targets; the laser guided heliborne fire and forget missile (HELLFIRE) which has been impressive in tests conducted during the year and promises to be an excellent contender as the anti-tank missile of future attack helicopters; and continued exploratory and advanced development work in the missile field.

Committee changes: Army

Safeguard Defense System.—The Committee recommends a reduction of \$25 million from the \$216 million requested for the Safeguard program. The ABM Treaty and previous congressional action limits the deployment of Safeguard to one site, Grand Forks, North Dakota. The Equipment Readiness Date for that site is October 1974 and the development and deployment for that site is in its final stages. In view of this early readiness date and the lack of approved plans to deploy the system to protect the National Command Authority, the Committee seriously questions the need for the full \$216 million requested for research and development by the Army for fiscal year 1974. The amount recommended, \$191 million, should adequately support the limited development effort remaining along with adequate test and evaluation support needed in the coming year.

Site Defense.—The Committee recommends a reduction of \$25 million from the amount requested, \$170,000,000, for the Site Defense program. The amount requested by the Army for fiscal year 1974 reflects an increase of 112 percent over the funds appropriated last year.

The ABM Treaty of last year permits very limited deployment of Site Defense components to augment the Safeguard defense of Minuteman near Grand Forks and permits possible use in an ABM defense

of the National Command Authority. Since no decision has been made to deploy such a system in defense of the National Command Authority, the Committee believes that a program of \$145,000,000 is sufficient for an orderly research and development program in fiscal year 1974. The Committee is of the opinion that the increase requested over last year was not adequately justified.

Navy (including the Marine Corps): The Navy missile program consists of three aspects, submarine launched (strategic), surface launched and air launched missiles. The major effort in the FY 1974 strategic area is the submarine launched Trident missile. Beginning this year the Trident submarine has been separated and carried out under another budget activity. R. & D. effort will continue engineering development of the Trident I (C-4) missile with the missile propulsion motor firings.

Related strategic effort for FBM system, FBM Command and Control and FBM Defense will also be carried out.

The principal effort in surface launched missiles is the Aegis, a ship-board anti-air warfare system nearing the end of development with a capability for improved area defense. It is of modular design providing a family of systems each compatible with a specific hull and consisting of a common set of modules. In FY 1974 an engineering development model, having completed land based tests will be installed in USS *Norton Sound* for tests at sea.

The surface launched efforts include also the Standard family of Interim Surface to Surface Missiles in the Semi-Active, Active and Anti-Radiation versions. These missiles are intended for use on destroyer types and gunboats.

The Harpoon program will provide a versatile air launched/surface launched and now submarine launched missile utilizing minor variations of a basic missile. The surface missile can be launched from existing missile launchers and utilizes a rocket booster and a turbojet engine. For submarine launch, a slightly modified surface missile is encapsulated and ejected from the submerged submarine's torpedo tube. The air launched version will be carried on P3 and S3A aircraft and is launched without a booster.

The Navy's Strategic and Tactical Cruise Missile programs have been combined for FY 1974 into a single technical program under which the testing of system components such as navigation subsystems will be conducted and various airframe and propulsion approaches will be examined. It is the Navy intent to develop both a strategic and a tactical version of the missile with initial efforts in FY 1974 slanted toward the strategic missile. The prime contractor for missile system and system integration will be selected in FY 1974.

There are several important efforts in the air launched missile area namely the Phoenix missile system for use with the F14, improvement programs for the Sparrow III and Sidewinder missiles and development of the short range Agile missile.

The Phoenix is completing final phases of evaluation prior to fleet introduction. A recent significant accomplishment was the successful attack with four Phoenix missiles on four targets.

The Agile program is intended to provide a greatly improved very short range-dogfight missile system for future air combat. In the interim, the present short range Sidewinder is undergoing improve-

ments to increase its capability in the dogfight mode. Similarly the medium range Sparrow is being improved in the areas of launch range, guidance and fuzing.

Also supported under this activity is the operation of the Pacific Missile Range.

Air Force: This budget activity provides for the development and test of ballistic and other missiles and related equipment as well as operation of the Western Test Range. Included in this budget activity are funds for Minuteman, and ABRES (Advanced Ballistic Re-entry System). The principal efforts in the Minuteman program are the improvement of prelaunch survival through the Upgrade Silo program, and improvement in the capability to management the force through the Command Data Buffer program. Design and development will continue on the Minuteman Missile Performance Measurement System, and in-flight hardness assessment; and ground testing. The ABRES program provides for the development and test of new techniques in re-entry systems and penetration aids for all Department of Defense ballistic missiles.

Defense agencies

The Strategic Technology project for Defense Advanced Research Projects Agency is responsible for a broad program of research and development designed to identify, explore and demonstrate advance concepts and technology which could have major technical impact on the offense/defense balance and hence on the U.S. national strategic capability.

4. Military astronautics and related equipment:

	<i>Thousands</i>
Army	\$17,900
Navy (including the Marine Corps)	55,500
Air Force	529,100

Army: The Army funds under this budget activity are for: development of new ground terminals and subsystems to increase the efficiency and reliability of the world-wide defense satellite communications system; development of small terminals for tactical application in the field army, which are also compatible with the defense satellite system; investigations of navigation by satellite; and for Defense Communications Systems digital communications system development.

Navy (including the Marine Corps): Effort in FY 1974 is in two major fields—Satellite Communications and Satellite Navigation. The Fleet Satellite Communication System (FLEET-SATCOM) is currently under contract. It will partially satisfy the most urgent needs of the Navy in this field and at the same time provide service to US Air Force users.

In the field of Satellite Navigation, programs will transition into the demonstration of hardware. One effort is devoted to the development/testing of modifications to existing TRANSIT satellites and user equipment. In addition the Navy will complete development, fabrication launch and test of a Navy technology satellite applicable to a future Defense Navigation Satellite System.

Air Force: This budget activity provides for the research, development and test of military space programs and certain associated costs for flight tests. Included are costs for the continuing development of space programs such as Defense Support, Military Satellite Commu-

communications Systems, Satellite Data System, and Space Defense System. Warning satellites have been deployed to provide early warning of land and sea launched missile attacks. This surveillance system provides near global coverage and reports information almost instantaneously. Also, significant progress has been made which provides reliable and secure global communications. Both of these projects are in continued development.

5. Ships, small craft and related equipment: *Thousands*

Navy	\$620, 100
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This activity provides for development, test and evaluation of ship structures and equipment including propulsion, communications, navigation and surveillance systems directly affecting ship operations. It supports the design, prototype fabrication and performance evaluation of new types of ships, sonar countermeasures devices, marine gas turbines and nuclear propulsion plants.

The Navy will complete testing and evaluation of the two 100 ton Surface Effect Ship testcraft and proceed with preliminary design efforts on the 2000 ton testcraft.

The air cushion vehicle Amphibious Assault Craft Program will proceed with construction of two prototypes. This fully amphibious craft with a planned speed in excess of 50 knots will be capable of carrying 60 tons of personnel, equipment and cargo ashore.

The prime effort in hydrofoil development in the Navy is a joint effort with our NATO allies, the NATO PHM. This nominal 215-ton ship will have waterjet propulsion and a formidable weapons suite consisting of the HARPOON surface-to-surface missile and a 76mm gun.

Navy development in the field of advanced propulsion will consist of programs in Nuclear propulsion, gas turbine power plants and superconducting electrical machinery. This last system, through the use of greatly refrigerated components, could reduce the size and weight of propulsion machinery by as much as 50%.

In addition to a program where a High Energy Laser will be installed in a converted cargo ship for tests of this exciting new weapon concept in the at sea environment, the Navy will also continue programs for development of systems and improvements in surface ASW and Electronic Warfare.

6. Ordnance, combat vehicles and related equipment: *Thousands*

Army	\$240, 300
Navy (including the Marine Corps)	50, 100
Air Force	123, 200

Army: This budget activity provides for research and development of weapons and vehicles. Included are field artillery weapons and ammunition, air to surface weapons except missiles, infantry small arms and ammunition, combat vehicles including their integral weapons and ammunition, and nuclear and non-nuclear munitions required for increased combat effectiveness. Additionally tactical vehicles both wheeled and tracked, and amphibious and ground effects vehicles for conducting warfare in all conditions of terrain, weather and climate are developed under this budget activity.

The principal programs in this budget activity are the new main battle Tank (the XM1), the Mechanized Infantry Combat Vehicle, the Armored Reconnaissance Scout Vehicle, the XM204 Towed 105MM Howitzer, the Bushmaster, and Scatterable Mines. The XM1 will have better armor to reduce its vulnerability and a better track, suspension and power plant will increase its cross-country mobility, speed and agility, thus providing the Army with a superior tank. The Mechanized Infantry Combat Vehicle, which will replace the M113 in selected units, will have increased effectiveness in cross-country mobility, ballistic protection, and improved stabilized weaponization. The Armored Reconnaissance Scout Vehicle, designed to replace the M114, will provide significant improvements in mobility, maneuverability, armor protection, and reliability. The Bushmaster, designed as the primary armament for the Mechanized Infantry Combat Vehicle, will have a variable high rate of fire and a selective dual ammunition feed system for a family of ammunition. In the area of mines, the primary effort is developing delivery systems for a variety of mines.

Committee changes: Army

Howitzer Medium 155mm XM198.—The Army budget request included \$5,976,000 for the development of a new 155mm howitzer to achieve extended range. During review of the Defense R&D budget requests, testimony was received indicating that the Navy has previously tested an ammunition which achieves the desired range using existing weapons. In view of this approach to solving the range problem by improving or modifying ammunition which can be fired from existing weapons, the Committee believes that the Army and the Navy should exert greater efforts in this less expensive approach before proceeding with a costly weapons development program.

For this reason, the Committee recommends deletion of the entire \$5,976,000 requested.

Nuclear Munitions.—The Army budget request included \$14,498,000 for the development of nuclear munitions for certain short-range tactical weapons. The Committee is greatly concerned that the use of these short-range tactical nuclear weapons could create serious problems for our allies as well as U.S. forces. The radioactive fallout which could result from the use of short-range nuclear weapons could endanger the lives of friendly allies as well as our own troops.

The Committee is not convinced that the problems have been adequately resolved. The use of this type weapon in time of emergency is seriously questioned, therefore the Committee recommends deletion of these funds until the various problems are resolved to the satisfaction of the Congress.

Navy (including the Marine Corps): In FY 1974, the Navy will emphasize completion of the engineering development models of the CAPTOR ASW mine which can be delivered by air, surface and submarine and utilizes a MK-46 homing torpedo in lieu of a conventional warhead.

As the MK-48 torpedo is now entering the fleet, the FY 1974 effort will be a modest one devoted to development of improvements.

Marine Corps programs will fund efforts in the development of homing ordnance, a Multi-Shot Portable Assault Weapon and a

Lightweight Air Defense weapon system as a replacement for the present Redeye.

In addition, this activity will support effort in other surface-launched munitions, conventional ordnance, fire control systems and Marine Corps weapons.

Air Force: This budget activity provides for the research, development and test of various weapons and munitions required by the Air Force. Included are funds to continue development of the 25mm caseless ammunition gun for air-to-air combat and the 30mm gun for air-to-ground operations. Also included are programs to develop more effective conventional bombs, fuzes, dispensers, and weapon guidance systems. This activity also provides funding for the Air Force Weapons and Armament Exploratory Development Laboratories.

7. Other equipment:

	<i>Thousands</i>
Army -----	\$335, 900
Navy (including the Marine Corps) -----	523, 600
Air Force -----	516, 900
Defense agencies -----	353, 620

This activity provides for research, development, test, and evaluation of equipment not separately provided for under other activities.

For the Army, it covers a broad range of items including communication-electronics, battlefield cover and deception, chemical warfare equipment, biological defense research, combat support equipment such as night vision devices, counterbattery and countermortar radars, fuel cells, combat feeding, clothing items and training devices. Testing provides for the all important test activities of the Army R&D program.

The TRI-TAC program will develop a new multichannel tactical communications system for the services.

High energy chemical lasers have the greatest energy per weight potential of any known laser but the technology is the least advanced; this program will address the technology of high energy chemical lasers.

The chemical/biological defense systems are required for detection, warning, protection, sampling and identification and decontamination so the soldier can perform all combat functions in a toxic environment with minimum loss of efficiency.

Surveillance, Target Acquisition, and Night Observation is an Army program to manage all development in this high priority area; the STANO program consists of the development of night vision devices, special purpose detectors, radar and ground sensors. The night vision program is oriented toward improving night vision devices to enhance the soldier's effectiveness during darkness.

Counterbattery and countermortar radars are being developed to provide timely and accurate location of hostile artillery and mortar positions.

Navy (including the Marine Corps): The entire Navy Exploratory Development Program is funded in this budget activity. Exploratory Development, is that part of R&D where concepts are evaluated to limit devotion of valuable resources to those which hold promise for future advanced and engineering development. Work is carried out in

various technology areas such as Target Surveillance, Command and Control Weaponry and Naval Vehicles.

In addition the Navy conducts advanced, engineering and operational development programs in Ocean engineering systems and technology, undersea and ocean surveillance including aerospace ocean surveillance, manpower and training programs, medical development and environmental protection.

Also included are several Marine Corps programs such as data systems, radar and air support systems.

Air Force: For the Air Force, the primary functional area funded in this activity is command and control. This includes the Airborne Warning and Control System (AWACS) which will provide the Air Defense and Tactical Forces with the means for detecting and engaging enemy aircraft. During FY 73, the competitive radar flight test program was completed ahead of schedule, under cost and with demonstrated performance that exceeded expectations. Plans for FY 74 call for installation of the hardware and software items in the Systems Integration Demonstration (SID) aircraft with flight testing scheduled to start in March 1974.

The Advanced Airborne Command Post will provide the National Command Authority with a significantly increased capability over the present EC-135 aircraft to command and control the armed forces during periods of emergency.

Many other development tasks in such areas as communications; electronic countermeasures; reconnaissance; surveillance; and traffic control approach and landing are included in this budget activity.

This activity also provides funding the Ground Electronics and Human Resources Exploratory Development Laboratories. Simulation research accomplished by the Human Resources Laboratory has shown that a significant amount of flying time in Undergraduate Pilot Training can be replaced by ground training allowing certain portions of the flying program to be reoriented to produce even better pilot training graduates.

Committee changes: Air Force

Airborne Warning and Control System (AWACS).—The Air Force requested \$197,800,000 for continued development of the Airborne Warning and Control System. During the Committee hearings on research and development, testimony was presented which indicated that the development schedule for this program has been changed due to certain tests and evaluations conducted in the European theater which had not been previously scheduled. This change in the development schedule results in a deferral of certain efforts to a later time. Because of this schedule revision, \$42 million requested for fiscal year 1974 can be deferred to a later year without adversely affecting the program.

The recommended reduction does not indicate lack of support for the program by the Committee but merely reflects the change in the development schedule. The Committee continues to support the AWACS program both as a tactical command and control system and as an airborne warning and control system against the threat of attack on the United States by air-breathing weapons systems.

Human Resources Laboratory.—The Air Force requested \$8,200,000 for the support activities required to operate the Human Resources

Laboratory at Brooks Air Force Base, Texas. This Laboratory performs exploratory and advanced development associated with development and design of training systems, airman and officer selection and classification, retention, promotion systems, maximal use of aptitude data, occupational analysis, organizational and personnel systems research, manpower analysis, and personnel subsystems for weapon systems.

The Committee believes that all of the above efforts are important and necessary. However, the justification data and testimony provided by the Air Force witnesses failed to convince the Committee that an increase of more than \$3 million over the funds authorized last year and \$4.4 million over the fiscal year 1972 funding level was warranted. The amount recommended by the Committee for this activity, approximately \$5.2 million, is the same as that authorized last year and should be adequate to continue the efforts of this Air Force Laboratory.

Defense agencies: For the Defense Advanced Research Project Agency, this budget activity includes nuclear monitoring research, a broad program of research and development projects applicable to tactical warfare; tactical military capability in small arms; target acquisition and identification, delivery systems of tactical weapons; low cost lightweight unmanned systems; marine vehicles, laminar flow vehicle research, surface effect vehicles; Arctic operations technology, ocean monitoring and control; optics technology, electronic sensors, balloon technology and landbased acoustic surveillance sensors; advanced computer development, and advanced signal processing; integrated command and control systems security; and research in essential forecasting and information analysis functions crucial to decision making.

For the Defense Communications Agency, this budget activity supports research and development in such areas as transmission, system control, secure communications, system engineering and transition validation, survivable communications support, satellite communications, and operation of the DCA System Engineering Facility.

For the Defense Nuclear Agency, this budget activity supports nuclear weapons effects development and nuclear effects tests. The development program provides the Department of Defense with required nuclear weapons effects information using all research and development means short of actual nuclear weapons tests and certain large scale field simulating tests. The information provided by this program is needed for design, development, evaluation and testing of strategic missile components that may be exposed to nuclear detonation effects during the in-flight mode.

For the Defense Mapping Agency, this budget activity supports the collection and production of Mapping, Charting and Geodetic information and products through development activities which will lead to (1) new and improved means for accelerating and expanding data acquisitions and (2) prototype equipment, techniques, and software to improve present or institute new production methods. Mapping, Charting and Geodetic information and products are produced by the Defense Mapping Agency in response to the stated requirements of the U.S. Commands' and Military Departments' strategic, tactical, and/or training forces.

8. Programwide management and support:		Thousands
Army	-----	\$58,100
Navy (including the Marine Corps)	-----	146,400
Air Force	-----	390,300
Defense agencies	-----	41,541

Army: The purpose of this program is to provide for those costs that cannot practically be identified to specific projects in other budget activities. Included are the general and administrative RDTE expenses at major command headquarters (except Department of the Army Headquarters); operation and maintenance of selected general purpose R&D activities; minor construction (less than \$50,000) and special purpose equipment benefiting more than one RDTE project; cost associated with international cooperative research and development with allied nations; effort for continued improvement of technical information activities required for the general support of the RDTE program, and long-term training of Army RDTE civilian employees.

Navy (including the Marine Corps): This activity, which for the Navy provides for the costs of operation, management and maintenance of Research Development and Test facilities not distributed directly to other activities, reflects restructuring in FY 1974.

Support efforts formerly shown under Facilities and Installation Support have been divided for better visibility and management. RDT&E Lab and Facilities management support funds management, maintenance, minor construction and alteration costs along with other such housekeeping work. Separated out in FY 1974 are RDT&E Instrumentation and Material Support providing range instrumentation and equipment and RDT&E Ship and Aircraft support funding maintenance, operation and overhaul of RDT&E dedicated ships and aircraft.

As its prime function is associated with operational testing vice Development testing, the major funding for the Atlantic Undersea Test and Evaluation Center (AUTEC) will in FY 1974 and future years be provided under the appropriation Operation and Maintenance, Navy.

Navy will continue in FY 1974 to fund the Navy Arctic Research Laboratory at Point Barrow, Alaska. The development of an Anti-Ship Missile Defense Test Range will continue with pursuit of the concept of providing appropriate simulators, test instrumentation and equipment to existing ranges. Navy will continue support of the Hip Pocket program designed to provide a quick reaction capability to demonstrate feasibility of proposed solutions for Anti-Ship Missile Defense problems. Additional equipments and systems which look promising will be installed and evaluated at sea in ships of the fleet during FY 1974.

Air Force: This budget activity provides for the operation and management of those research, development and test facilities not included under other budget activities and provides for pay of civilian personnel, travel expenses, supplies, and equipment for such installations as the Flight Test Center, Edwards AFB, California; Armament Development Test Center, Eglin AFB, Florida; Aeronautical Systems Division, Wright-Patterson AFB, Ohio; Space and Missile Systems Organizations, Inglewood, California; and HQ Air Force Systems Command, Andrews AFB, Maryland.

Defense agencies: This activity includes funds for payment of salaries to civilian employees and for support costs of the Defense Advanced Research Projects Agency.

For the Defense Supply Agency, the major portion of the fiscal year 1974 authorization request is for the operation of the Defense Documentation Center and eight Information Analysis Centers. The Documentation Center collects, stores and disseminates scientific and technical information to the Defense RDT&E community. The Center maintains a collection of over one million technical reports and 32,000 records on planned and on-going research and technology efforts. The Information Analysis Centers collect, store, review and analyze the results of research and development efforts in subject areas such as chemical propulsion, engineering properties of materials, infrared physics, and reliability data on microelectronic components. Based on this review and analysis, they provide authoritative, up-to-date information to the Defense community and other Federal Agencies and the private sector to the degree possible.

Last year Congress established a new appropriation for "Director of Test and Evaluation, Defense." For fiscal year 1973, \$27 million was appropriated and \$24.6 million is recommended for fiscal year 1974. In FY 1974, this organization will participate in some eleven specific joint test activities to insure that adequate development and operational testing and evaluation is conducted prior to major production decisions. In addition, this organization will monitor more closely the major defense test and evaluation facilities to see that they operate more effectively and that unwarranted duplication is eliminated.

TITLE III—ACTIVE FORCES

The Department of Defense requested an authorized end strength for active duty personnel in each component of the Armed Forces for the fiscal year beginning July 1, 1973 and ending June 30, 1974, as follows:

- (1) The Army, 803,806;
- (2) The Navy, 566,320;
- (3) The Marine Corps, 196,419;
- (4) The Air Force, 666,357.

After the most extensive hearings, the committee recommends the following authorized end strengths for active duty personnel in each component of the Armed Forces for the fiscal year 1974 as follows:

- (1) The Army, 791,627;
- (2) The Navy, 565,912;
- (3) The Marine Corps, 196,363;
- (4) The Air Force, 665,963.

This represents an end strength of 2,219,865. This is 94,188 fewer personnel than authorized for fiscal year 1973. It is 13,037 less than requested by the Department of Defense for this year. To put these figures in perspective, the end strength is:

The lowest since the Korean War year of 1950;

464,000 lower than the strength in 1964 just before the Vietnam buildup;

1,325,000 less than the strength at the height of the Vietnam war.

The end strength for fiscal year 1974 marks the arrival of the "base line force," the minimum force that the President and the Secretary of Defense consider necessary to carry out national security objectives.

Further reductions can only be justified by reducing foreign policy commitments which the military force is structured to support.

The reductions over the past several years are due in large part to the disengagement from the Vietnam war. Obviously, in a force of over 2,200,000 persons, there may be some personnel over-staffing and where there is, it should be removed, but it is the committee position further major reductions at this time would be both unwarranted and unwise.

Manpower end strength levels can only be meaningful when viewed in terms of our national security objectives established by the President and the Congress. Basically they are: to preserve the United States as a free and independent nation, to safeguard its fundamental institutions and values, and to contribute to the security of other nations with whom we have treaties or whose security impacts upon our own security.

We recognize at this time that the most important question about military manpower in relation to U.S. foreign policy grows out of the United States involvement in Europe. Our modern foreign policy as related to Europe rests on the premise that Western Europe, controlled or dominated by a hostile power, would represent a major threat to the United States. Thus, a free Western Europe is fundamental to U.S. national interests.

Because of this major premise of U.S. policy, the United States:

- Fought in the two great European wars of this century;

- Developed the Marshall Plan and subsequent economic development programs, with initial emphasis on the reconstruction of Western Europe, to make Europe strong enough to be independent of Soviet domination which had already smothered East Europe;

- Propagated the Truman Doctrine;

- Developed the Greek-Turkish aid program when those countries were under pressure from the Soviet Union following World War II, largely to strengthen the Mediterranean flank of Western Europe;

- Joined NATO to defend the security of the United States to provide the military shield for European reconstruction and independence;

- Encouraged economic and political integration of West European countries, leading to the European Common Market.

Now, more than a quarter century after World War II, the United States still has some 300,000 military personnel in Europe. This continuing commitment is rooted in the judgment of the overwhelming majority of experts on both sides of the Atlantic that the basic premise is unchanged: the security of Western Europe and the security of the United States remain indivisible; a threat to either is a threat to both.

In addition to continued military involvement there has been an enormous and steadily growing mutual political and economic involvement among the nations of the North Atlantic Community. The economic and political integration of Western Europe progresses with the long-term support of the United States, and as the 300 million

people of Western Europe become a prosperous and viable entity, the importance of our common political institutions grows correspondingly.

Economically, too, the mutual strength of the North American and Western European markets serves to make the Atlantic Community the world's most important trading area. There are some 4,000 multinational companies operating throughout the world and the great majority of these are Western European and North American. In 1972, the U.S. directed almost a third of all its exports to Western Europe. U.S. corporations and private citizens have over \$25 billion in capital investments in Europe on which there is an annual return of nearly 10 percent. The U.S. derives certain other economic benefits from its position in the NATO alliance including a favorable climate for U.S.-owned corporations in Europe and favorable attitudes on international monetary issues resulting in European support for the dollar. This has been illustrated recently in the international monetary "crisis", when the Europeans showed themselves much more accommodating toward American balance of payments problems and monetary difficulties than they might if there were no Atlantic security system led by the U.S.

Thus, U.S. forces are not stationed in Europe as an act of charity to weak allies. Far from giving the Europeans a "free ride" at American expense, the United States has more invested in Western Europe than vice-versa and from the standpoint of trade, the U.S. as a market for Western European nations receives less than 10 percent of their exports. The United States has distinct national interests of its own in the independence, security, and prosperity of Western Europe.

THE NATURE OF THE THREAT TO WESTERN EUROPE

Recent developments in Europe have been productive in terms of politically improved East-West relations:

The Four Power Agreement on Berlin has entered into force and is being implemented.

The Federal Republic of Germany has negotiated agreements with the Soviet Union, Poland and the German Democratic Republic to serve as the bases for their mutual relations with continuing emphasis to be given to further improvement of relations.

Multilateral preparatory talks have begun in Helsinki to prepare for a proposed conference on Security and Cooperation in Europe.

The Warsaw Pact has agreed to discuss separately the question of troop reductions in central Europe. Exploratory talks on Mutual and Balanced Force Reductions (MBFR) began on January 30th in Vienna. Formal negotiations on MBFR will begin in October 1973.

Because of these encouraging events, the continued presence of U.S. forces in Europe at the present level troubles some critics who want a substantial reduction of these forces. These critics maintain that the threat of a European war has greatly diminished, that the prosperous Western European nations should now assume the full burden of their own defense, and that our expenditures for U.S. forces in Europe are eroding the U.S. financial position. To test the validity of this position we must compare the underlying assumptions of the threat by

those who would unilaterally reduce our troop levels in Europe and the actual nature of the Soviet and Warsaw Pact military establishment in Eastern Europe.

The primary assumption upon which the proponents of withdrawal from Europe base their arguments is the alleged reduced threat by the Warsaw Pact forces. The facts do not support this assumption. Treating first the ground force reality, in the face of a reduction of U.S. troops in Europe of over 35 percent since 1961, the Soviets have increased their troop levels and tank inventory in Eastern Europe by some 20 percent in the last 5 years. Soviet forces comprise about two-thirds of Warsaw Pact forces in central Europe. The Soviets now maintain some 20 highly mobile armored and mechanized divisions in East Germany alone. Whereas the NATO armed forces are organized primarily in a defensive posture, the Warsaw Pact forces are overwhelmingly offensive in nature; ill-suited for a protracted conflict, they are almost designed for a "blitzkrieg" type strategy.

For example, Soviet military doctrine is based on plans of offensive operations against NATO forces which would penetrate West Germany by as much as 100 kilometers in the initial thrust with subsequent daily advances on the order of 50 kilometers. This is no paper threat based on a phantom capability. Of the 31 Soviet divisions stationed in Eastern Europe, over half are armored divisions, with the remainder motorized rifle divisions possessing considerable armored capability. The Warsaw Pact divisions, which outnumber NATO divisions in the vital Central Region of Western Europe by about two to one, have almost twice as many combat and direct support troops and nearly three times as many tanks readily available as does NATO.

Other aspects of the threat include the training and logistics capabilities of the Warsaw Pact forces. Unlike the NATO forces which have a wide variety of weapons systems and equipment with great problems in standardization, Warsaw Pact forces are armed primarily with Soviet equipment and trained in accordance with Soviet doctrine and standards resulting in a highly integrated armed force at Soviet command. And unlike the U.S. logistic line of communication which extends across an ocean and runs almost parallel and relatively close to the borders of West and East Germany, the Warsaw Pact forces are supported by relatively short Soviet interior lines of communication which greatly facilitate the Warsaw Pact reliance in a unit replacement system.

The threat then is essentially one of the magnitude and nature of the Warsaw Pact forces and of the Soviet presence in Eastern Europe which far exceeds any conceivable requirements for Warsaw Pact defense from attack by NATO forces. Some might say the Soviet presence in Eastern Europe is based on the necessity of those forces to maintain Soviet hegemony. The reality of the swift and skillful occupation of Czechoslovakia in 1968 by several hundred thousand Soviet troops not previously stationed in that helpless country should discount the maintenance of hegemony theory and stands as a vivid example of Soviet policy and capability to East and West Europeans alike. Therefore, when the Soviet military posture and their apparent willingness to negotiate are in juxtaposition, Soviet capabilities rather than presumed intentions must be the basis of NATO military posture. To do otherwise would be not only imprudent, but irresponsible.

NATO STRATEGY

A strategy is a means for matching objectives and capabilities. With respect to Western Europe, U.S. objectives have remained essentially unchanged since the formation of NATO some 25 years ago. It is vital to U.S. interests that the states of Western Europe retain close political ties with the U.S., maintain friendly and cooperative relations among themselves, and remain secure from attack or political pressures from the East.

Since NATO was founded, however, the means that the Alliance has to protect and to promote its interests have changed. NATO strategy has evolved in response to changing capabilities. During the 1950s, NATO enjoyed a marked superiority in nuclear weaponry over the Warsaw Pact sufficient to offset the substantial advantage that the Pact had in conventional forces. In this period a strategy relying heavily on nuclear weapons—the strategy of massive retaliation—was appropriate and effective for deterring Communist aggression against Western Europe.

By the early 1960s it became apparent to us that the U.S. and its European allies would not be able to maintain a nuclear monopoly. The Soviet ability to wage nuclear war made our readiness to use nuclear weapons less credible to our Allies and to the USSR as well and, therefore, raised the importance of conventional forces. Unless faced with a comparable conventional opponent, the Soviets would be able to threaten Western Europe because the readiness of the West to resort to nuclear war for limited aggression would be very much in doubt. At the same time, the countries of Western Europe had recovered economically, and were better able to support conventional military forces that could, in conjunction with U.S. forces deployed in Europe, match those of the Warsaw Pact. *In 1962 the U.S. therefore began to develop the concepts and capabilities underlying the strategy of flexible response. That strategy was officially adopted by NATO in 1967. It remains NATO strategy today.*

A flexible response strategy recognizes that the Pact could pose a range of challenges to the NATO area from threats to use force, to limited aggression, to all-out attack supported by nuclear weapons. It seeks to deter this range of threats by having a spectrum of forces to meet each challenge. NATO retains the option to escalate conflict to higher levels of violence so that the Pact must face the prospect that even limited conflict could lead to a devastating nuclear war. *Flexible response is not a strategy that abandons nuclear weapons in favor of conventional defense. Rather it provides for a range of capabilities—nuclear and non-nuclear—to deter aggression.*

COMMITTEE SUPPORT OF NATO COMMON FUND PROPOSAL

It is this strategic need which determines the level of U.S. forces in the European area. NATO's conventional forces must be able to repel a conventional attack and thus pose a credible deterrent. These forces are neither a trip wire nor a symbol. They have both a deterrent and war-fighting function that cannot be performed if they are significantly reduced in the absence of comparable Soviet reductions.

Some claim that the United States provides more than its equal share to NATO but it must be recognized that our NATO allies provide 90 percent of the total manpower, 80 percent of the ships, and 75 percent of the airpower of the Alliance. In terms of men and equipment, the committee believes the U.S. contribution is not excessive.

The figure of \$17 billion is quoted as the annual cost of our military commitment to NATO. But this represents the cost of all the U.S. forces both in Europe and in the U.S. which might be committed to Europe, plus variable costs of U.S. base support including training and individual support and logistics for forces which might be committed to NATO. It also includes the U.S. share of the NATO infrastructure program. Approximately \$7.7 billion of the \$17 billion is related to the cost of U.S. combat forces actually in Europe, including their U.S. base support and the cost of equipment. Approximately half of this \$7.7 billion is spent in-country in Europe with the remainder spent in the United States.

The committee recognizes that the United States does suffer an unfair share of the financial burden through a balance of payment deficit because of the deployment. In August of 1972, a subcommittee of the House Armed Services Committee, in a report on the American Commitment to NATO, recommended the establishment of a NATO Common Fund which would be used to cancel a balance of payment deficit or absorb a balance of payment surplus because of military deployments which benefit all members of the Alliance. Contributions into the fund would come from countries which experience a balance of payment windfall from troops stationed in their country. It further proposed that arrangement be made for some contribution by member nations which do not have forces stationed on their soil yet enjoy substantial protection because of troops stationed in neighboring countries.

If this program were adopted, burden sharing would be done in a way to benefit the United States most and without militarily weakening the Alliance. The committee is pleased that the new Secretary of Defense recently proposed that our NATO allies develop a multi-lateral program to compensate the U.S. for its heavy expense for NATO along the lines recommended by the subcommittee.

The committee strongly urges that the Administration press forward with this program so that there may be a more equitable distribution of cost among all of the members of the Alliance.

THE ALL-VOLUNTEER FORCE

There is considerable question as to whether the all-volunteer force can meet the military manpower requirements both qualitatively and quantitatively over the critical years ahead. At the request of this committee, the General Accounting Office was requested to report to the committee on the problem expected in meeting military manpower needs in the all-volunteer force. This report was presented to the committee during its hearings, and contains the following highlights for fiscal year 1974.

Under the standards set for quality accessions:

- (1) The Air Force will meet its enlistment requirements and the Navy will do the same with less certainty.

(2) The Army and Marine Corps will have difficulty meeting requirements and in all probability will have shortfalls.

(3) If the Army and Marine Corps lower the quality standards, they will meet numerical requirements.

(4) Additional incentives could ease any of these quality problems. The alternatives suggested by the General Accounting Office for meeting active forces requirements include the increased use of women, civilianization and lateral entry.

The General Accounting Office further found that there will be problems in meeting requirements of the Reserve components.

The Assistant Secretary of Defense for Manpower feels strongly that the all-volunteer force will work, particularly with some added incentives and that the pessimism expressed in the General Accounting Office survey may well be attributed to unrealistic quality goals rather than the ability of the services to enlist an adequate force with a proper quality mix. The Assistant Secretary told the committee:

Given incentive pay and disengagement from manpower involvement in Vietnam there is no reason why a well-managed military force cannot attract and keep a sufficient number of the right kind of members.

In my opinion the draft is a crutch. An extension of the induction authority simply would keep the military from solving its manpower supply problems.

The committee believes that it is too early to predict the results of an all-volunteer force with any degree of accuracy. But shortages can be expected in several critical manpower areas such as Reserve forces and health professionals.

By the end of June 1973, the Department of Defense has only been able to secure 89 percent of its enlistment goals for the first six months of 1973. The problem is severe within the Army and the Navy. The Air Force and the Marine Corps have reached 100 percent of their accessions goals.

Regardless of this record, the Executive Branch did not ask for an extension of its draft authority, relying on its ability to recruit and maintain an all-volunteer force.

Two aspects of our military personnel are of particular concern to this committee. One relates to the physical condition of certain of our troops and the other relates to discipline within our forces.

Standards of Physical Conditioning: It is the committee position that every person serving in the military should at all times be in a physical condition to assume a combat role. There are too many personnel, particularly higher-grade enlisted men and senior officers who have not seen fit to keep themselves in proper physical shape. The committee strongly urges the military services to give increased emphasis to a physical fitness program and to examine each of their personnel periodically to determine if their personnel meet the physical fitness standards.

Discipline: The committee would further reaffirm its position that discipline is the keystone of the armed services of any nation. If discipline collapses, a military force becomes a leaderless, uniformed mob, capable only of accomplishing its own destruction.

The military services are now confronted with pressures, both from within and without, which, if not controlled, will surely destroy their enviable tradition of discipline. We recognize that we must adhere to the traditional concepts of military discipline tempered with humanitarianism.

COMMITTEE REDUCTIONS

Enlisted aides

The committee looked into the question of the enlisted aide program in the military services.

Each of the military services assigned enlisted men as personal aides to senior officers to relieve the officer of minor details which, if performed by the officer himself, might be presumed to be at the expense of the officer's primary military mission and official business. The regulations governing the program state that the propriety of the duties of the enlisted men is governed by the purpose the duties serve rather than the nature of the duties, and that the aide's duties must be accomplishing a necessary military purpose. Personal aides are called enlisted aides by the Army, public quarters stewards by the Navy, air-men aides by the Air Force, and cook specialist or food technician specialist by the Marine Corps. Each of these personal aides, for the purpose of this record, are referred to as enlisted aides.

In December 1972 there were 1,312 general/flag officers in the military services. There were 860 admirals and generals and 110 Navy captains assigned enlisted aides. The total number of enlisted aides as of December 1972 was 1,722. There were 452 admirals and generals who either were not assigned or chose not to have enlisted aides.

To train these aides, the Army and Marine Corps ran enlisted aide schools, and the Marine Corps also used a civilian school. The Navy and Air Force used on-the-job training and, in some instances, trained their aides at the Army school. During the course of our inquiry, the Services announced the termination of these schools.

The committee believed that 1,722 enlisted aides was excessive to the needs of the military services. But the committee recognized that the obsolete houses frequently assigned as public quarters to admirals and generals are so large that it is essential that some type of assistance be provided for the care and maintenance of those quarters. It is further recognized that assistance is needed where the nature of duties require senior officers to engage in numerous official entertainment activities.

Therefore, the committee reduced the number of aides, and established a limitation on the total number of personnel who can be used as enlisted aides, of 1,105. This represents a 35.8 percent reduction in the number of enlisted aides from December 1972. The committee correspondingly reduced the strength of each of the military services, a reduction of 617.

While the committee reduced each service by an appropriate number, it is the committee's position that the allocation of 1,105 enlisted aides among the services should be made by the Department of Defense, which is in the best position to make an objective judgment of requirements. The committee believes that enlisted aides should only be assigned to those generals and admirals who live in public quarters.

The committee expects that the enlisted aide program will be closely monitored within the Department of Defense, and that a report will

be made to the Congress prior to the consideration of the annual authorization bill for FY 1975, detailing where and if further cuts in this program can be made.

Graduate education students

The committee became concerned that in FY 1974 we would have at all times 1,473 Army officers, 1,532 Navy officers, 236 Marine Corps officers, and 1,962 Air Force officers in fulltime graduate education programs. The committee reduced the officer strength of the services by 10 percent of the number of officers slated to attend graduate education programs. It is the belief of the committee that a reduction in strength equal to the reduction in student training load was advisable in this instance.

Specifically, reductions were made as follows: the Army by 147, the Navy by 156, the Marine Corps by 24, and the Air Force by 196.

Additional Army reduction

During the course of the hearings, the Army informed the committee that because of the withdrawal of troops from South Vietnam, proposed year end strength for FY 1974 was 11,900 more than would be required. The committee, therefore, reduced Army strength authorized in the bill by that amount.

TITLE IV—RESERVE FORCES

The Department of Defense requested authorization for the Selected Reserve of each Reserve component of the Armed Forces to attain an average strength of not less than the following:

- (1) The Army National Guard of the United States, 379,144;
- (2) The Army Reserve, 232,591;
- (3) The Naval Reserve, 116,931;
- (4) The Marine Corps Reserve, 39,735;
- (5) The Air National Guard of the United States, 99,291;
- (6) The Air Force Reserve, 49,773;
- (7) The Coast Guard Reserve, 11,300.

This request represents a reduction of 66,544 from the levels authorized for FY 1973. Rather than fully reflecting actual requirements, the request represented in part the best estimates of what the Services will be able to recruit and retain in FY 1974. The committee is not particularly pleased with this approach to defense planning. Nevertheless, it is recognized that there is a severe manpower shortage in the Reserves today, and that it would be futile to mandate an average strength requirement which is beyond attainment.

As of December 1972, Reserve average strength was 46,018 below requirements. This shortfall had grown to 58,134 as of May 1973. It is likely to become even worse during the latter part of 1973 as those who entered the Reserve during the height of the war in Vietnam leave service. Therefore, the Committee on Armed Services authorized the strengths requested with the exception of the Coast Guard where the committee followed the recommendation of the Coast Guard and the Department of Transportation and added 500 to the Reserve authorization, bringing it to a total strength of 11,800, the same as authorized for FY 1973. There is a mobilization requirement within 30 days for

the Coast Guard Reserve of approximately 23,000 and the committee believes, at this time, that approximately half of that mobilization requirement should be met from those in the Selected Reserve.

Despite the shortfall of personnel which is presenting an extremely serious problem, the Reserve components today are receiving greater attention from the Active forces than they ever have in the past. As a result, units are better equipped than they have been in many, many years and the training programs continue to improve, thus creating a greater degree of readiness than we have had in the past. But, as additional reliance is placed on the Reserves under the Total Force Concept, additional efforts will be required in the year ahead.

Each year since 1969, the budget for the Guard and Reserve has increased over the year before. In FY 1974, the Reserve component budget totals approximately \$4.4 billion. Some of the dollar increase is, of course, the result of increasing costs, but a significant part of the increase is to support or improve programs which directly contribute to the development of better mobilization readiness.

Moving from money to hardware, there are many examples of what has and is happening in the equipping of the Guard and Reserve.

At the end of 1969, the Army's primary individual weapon was the M-16 rifle. However, the Army's Reserve components had a total of less than 2,500 of these modern weapons and the vast majority of the Army Guardsmen and Reservists were dependent on the old M-1. By the end of December 1972, the inventory of M-16s in the Guard and Reserve was above the 470,000 mark and the M-1s were fast disappearing from the force. This pattern of modernization as well as increased equipment levels is evident in aircraft, tanks, wheeled and tracked vehicles—in fact, in all types of equipment.

In 1969, there were 35 obsolete or non-combat serviceable destroyers which were designated as Reserve *training* ships. All but one of these are now gone. There are 36 fleet rehabilitation and modernization (FRAM-I), mission-compatible destroyers in the Naval Reserve and the designation has been changed to delete the word "training." Minesweepers have also been modernized through replacement, the first of the riverine craft has been added, and—on the Naval Air Reserve side of the house—there has been a revolutionary change in quality of aircraft.

It is hard to illustrate the modernization of the Air National Guard and Air Force Reserve because of wholesale changes in mission orientation as well as aircraft types. However, one of the most dramatic developments has been the retirement of the workhorse C-119 and its replacement by the C-130. Combined with this transition to combat-tested aircraft has been the establishment of Reserve associate units wherein active duty squadrons in the Military Airlift Command are supplemented with Reservists. This has increased the crew-aircraft ratio and provided assurance of full emergency utilization of C-5s, C-141s and C-9s without increasing the active force during peacetime. Other significant milestones in the modernization of the Air National Guard and Air Force Reserve are the retirement of F-84s and the introduction of F-4s, A-37s, A-7s and additional F-105s.

Maintaining the minimum strength is the greatest problem facing the Reserve components in FY 1974. Recruitment and retention of

enlisted personnel is extremely difficult while there is no particular problem in attracting and retaining officer personnel.

Although the strength authorized for FY 1974 is approximately 66,000 less than that authorized in FY 1973, the authorization is a floor, and does not preclude attempts to achieve the true requirement. This floor is merely a base from which strengths can be rebuilt to the manning level objectives commensurate with effective mobilization and deployment in an emergency.

To build toward that strength objective, recruitment methods such as the three-by-three programs; i.e., three years in the Selected Reserve followed by three additional years in the Ready Reserve, are being tested, and should be expanded. The committee is convinced of the necessity for a test of certain enlistment and reenlistment bonuses for Reservists.

The committee is concerned that budgetary constraints may have necessitated a trade-off of manpower for modern hardware in the Navy so that the requested strength for the Selected Naval Reserve may be less than that required at mobilization.

With respect to the Coast Guard Reserve, the committee continues to believe that a Selected Reserve strength figure of approximately 17,000 is more nearly reflective of requirements than the 11,800 which the committee recommends for FY 1974. Every effort should be made to reach that higher figure in the years ahead.

There are other areas of concern to the committee in regard to the Reserve program. Increasingly, technicians are filling a more dominant role in the Reserves. While the committee recognizes the vast contributions made by the technicians in improving the readiness of units, the tradition of the citizen-soldier must continue. Technicians must recognize their subordinate role as military personnel assigned to assist rather than to lead the Reserve units.

The Committee is concerned about the move on the part of certain technicians who are resisting the wearing of the military uniform while performing their military duties. The committee strongly supports the policies promulgated by the Chief, National Guard Bureau, in his letter dated February 23, 1973 in which he directed that technicians should in all but the most unusual circumstances continue to wear military uniforms. In that letter he stated:

"In summary, the requirement for the excepted technicians to wear the prescribed military uniform is directly related to the nature of their employment and their responsibility to the National Guard as a military organization in its important role in the nation's defense. The fundamental fact is that the National Guard is a military activity and the technician work force is engaged for the sole purpose of accomplishing those tasks essential to a military organization. The requirement that the overwhelming majority of the technicians must be members of the Guard, thereby assuring a continuing availability of their skills upon mobilization, attests to the complete military nature of their employment. The uniform is an important manifestation of this fact. The requirement that technicians wear the uniform is a valid, responsible and reasonable determination."

TITLE V—MILITARY TRAINING STUDENT LOADS

Title V of this bill authorizes the military training student loads for fiscal year 1974. The term "training loads" can be defined as man-years in a training status and should not be confused with the numbers of military personnel who will actually undergo formal training during the course of the fiscal year. That number is 1,601,205; most of whom undergo training for periods of considerably less than a full year. Not included in this authorization is training performed in the field and in the fleet in order to attain and maintain technical and combat proficiency.

The authorized military training student loads for fiscal year 1974 are:

- (1) The Army, 89,053.
- (2) The Navy, 75,647.
- (3) The Marine Corps, 27,976.
- (4) The Air Force, 54,904.
- (5) The Army National Guard of the United States, 19,100.
- (6) The Army Reserve, 59,900.
- (7) The Naval Reserve, 15,200.
- (8) The Marine Corps Reserve, 5,600.
- (9) The Air National Guard of the United States, 4,600.
- (10) The Air Force Reserve, 24,300.

The above authorization represents an overall reduction of 520 man-years from the Administration's authorization request.

Justification for the President's budget request was submitted in the Military Manpower Training Report for fiscal year 1974 in accordance with the requirements set forth in Public Law 92-436 which states, in pertinent part:

Beginning with the fiscal year ending June 30, 1973, the Secretary of Defense shall submit to the Congress a written report not later than March 1 of each fiscal year recommending the average student load for each category of training for each component of the Armed Forces for the next three fiscal years and shall include in such report justification for and explanation of the average student loads recommended.

Military training is categorized in the following manner:

(1) *Recruit training* includes all basic initial enlisted training for all services for both active and reserve components. In all services, it represents an introduction of the new enlisted man or woman into military life. In addition, in the Army and Marine Corps, recruits are taught common military skills, such as the fundamentals of individual weapons and combat skills.

(2) *Specialized training* provides both officer and enlisted personnel with the skills and knowledge necessary to perform specific jobs or to operate or maintain specific pieces of equipment.

(3) *Officer Acquisition training* includes training programs through which officers are procured, such as the Service Military Academies, the Reserve Officers Training Corps, Officer Candidate Schools and Enlisted Commissioning programs.

(4) *Flight training* provides the basic undergraduate flying skills for pilots, navigators and Naval Flight Officers. This category does

not include the major formal advanced combat training programs which are beyond the scope of this authorization since they are conducted by and for operational combat units. However, some flight-related skills, such as the Air Force navigator/bombardier, electronic warfare and survival course, are included.

(5) *Professional training* includes military education, graduate education, degree completion education and professional development courses not leading to a degree. This training is accomplished at both military and civilian institutions and includes: Senior Service Schools, Staff Colleges, advanced degree programs, Department of Defense schools such as the Defense Systems Management School and professional medical training.

The following table shows the authorized training loads for Fiscal Year 1974 for each Service component for each type of training:

MILITARY TRAINING STUDENT LOADS FOR FISCAL YEAR 1974

DOD component	Recruit	Specialized	Professional	Flight	Acquisition of officers	Total
Army.....	48,900	24,300	¹ 9,953	1,800	4,100	¹ 89,053
Navy.....	17,000	43,700	¹ 8,647	2,100	4,300	¹ 75,547
Marine Corps.....	14,000	10,700	¹ 2,276	1,100	0	¹ 27,976
Air Force.....	9,300	28,900	¹ 7,604	5,000	4,200	¹ 54,904
Army National Guard.....	16,000	2,800	100	200	0	19,100
Army Reserve.....	10,800	3,500	600	100	² 45,000	59,900
Navy Reserve.....	1,000	4,600	1,600	0	² 8,100	15,200
Marine Corps Reserve.....	1,000	1,600	100	0	² 3,000	5,600
Air Force National Guard.....	1,300	2,900	100	400	0	4,600
Air Force Reserve.....	500	1,600	100	300	² 22,000	24,300

¹ With the exception of these items, all numbers in the table are rounded up to the nearest hundred; therefore, components may not add to totals.

² The non-Academy portion of these enrollments is not military personnel, but civilian students in such programs as ROTC, etc.

In its report on the FY 1973 Authorization Bill (House Report 92-1149) the Committee expressed its concern for the burgeoning costs of military personnel and personnel-related items in the Defense budget. The Committee said: "Therefore, recognizing the huge cost of training personnel and likely abuses in this area, it is the view of the Committee that this element of the departmental budget is a very likely source of future savings."

At the same time the Committee recognized that there would be some considerable difficulty in accurately determining the costs associated with the military training programs. It said: "The Committee is aware that the accounting procedures now in effect in the Department of Defense and the individual Service Departments do not lend themselves to an accurate determination of total annual training costs expenditures . . ."

After the Committee's initial review of military training, it has become clear that the Committee's concern for inadequate accounting procedures was well-founded.

It is still not possible to accurately determine the costs of military training, although some progress toward standardization of accounting and reporting has been achieved. The Committee is continuing to monitor Defense Department efforts in this area.

Subject to the above caveat, the following table indicates the estimated costs associated with the five training categories:

ESTIMATED COSTS OF TRAINING, FISCAL YEAR 1974¹

[In thousands]

Service	Recruit	Specialized	Professional	Flight	Officer acquisition	Total ²
Army.....	\$784,374	\$737,617	\$257,680	\$98,870	\$163,018	\$2,041,559
Navy.....	159,181	650,544	167,265	365,818	98,960	1,441,768
Marine Corps.....	168,727	115,382	78,513	21,103	2,838	386,563
Air Force.....	152,293	609,925	164,208	530,789	192,681	1,649,896
Total.....	1,264,575	2,113,468	667,666	1,016,580	457,497	5,519,786

¹ Training of Reserve and National Guard forces is included in the appropriate active-duty service component.

² In addition, the Department of Defense has identified \$826,008,000 in costs which are expended on behalf of the training effort but which do not lend themselves to allocation to any specific training category. The addition of these costs would raise the total estimated cost of military training to \$6,345,794,000 for fiscal year 1974.

In addition to cost-accounting problems, the Committee found that the administration of similar training programs varied between the individual Service Departments. For instance, Recruit Training in the Army and Marine Corps includes some elements of training which the Air Force and the Navy include in the Specialized Training category. Also, some training which should obviously be placed in the Officer Acquisition Training category is designated as either Professional or Specialized Training.

During its hearings, the Committee directed representatives of the Department of Defense to resolve as many of these anomalies as possible prior to the submission of the annual military training report for the next fiscal year. It is recognized that a full standardization in all areas will probably not be possible. Nevertheless, the Department of Defense should make every reasonable effort to accomplish this goal in as short a time as possible.

Part of the problem associated with an apparent lack of adequate management of the Service training programs is the insufficient numbers of management personnel within the Education portion of the Office of the Secretary of Defense. The then-Assistant Secretary of Defense for Manpower and Reserve Affairs, the Honorable Roger T. Kelley, made the following candid statement before the Committee:

On the subject of military training and education, while the services will continue to have the primary role in training, there should be better monitorship of training from the Office of the Secretary of Defense than I have accomplished in the last four years, and there should be much greater emphasis upon such areas as reducing duplication of training resources between services and eliminating training in skills that are not being employed.

At the present time the Deputy Assistant Secretary of Defense (Education) has a staff consisting of six civilians and eight military personnel to oversee the \$6.4 billion Defense training program. The Committee has received assurances that, upon completion of a study to define specific requirements, the Office of the Deputy Assistant Secretary of Defense (Education) will be expanded in order to increase its management capabilities in overseeing the entire training program of the Department.

Officer graduate education

The authorization request would have permitted approximately 31,000 man-years of officer graduate education in FY 1974. Justification for this request is based primarily on the fact that there are 24,845 billets for military officers which require that the incumbent hold an advanced degree. Of these, 10,676 are in the fields of science and 4,312 are in the humanities and engineering, 9,857 are in business and financial management, and social sciences. These positions are periodically "validated" by the Services concerned presumably to ensure that the advanced degree is essential to the proper performance of the responsibilities involved.

The Committee is not convinced that all of these billets do, in fact, require the holding of advanced degrees. Nor is the Committee convinced that the incumbents need be military officers educated at government expense as opposed to civilians who have acquired their degrees prior to being employed.

The Committee recognizes that there is a valid need for a well-educated officer force but rejects the concept of advanced education *per se* as a benefit which must be available in order to attract and retain officers.

Therefore, the Committee reduced the officer graduate education request by 10 percent in each of the Services. It is the Committee's intent that such reductions be effected in the programs for advanced degree attainment, primarily at civilian institutions. The reductions in officer graduate education student loads, allocated by service, are:

Army, 147.

Navy, 153.

Marine Corps, 24.

Air Force, 196.

In order to more properly account for and manage advanced degree requirements, the Committee urges that the Service inform officers, upon their assignment to graduate education, of the billet for which they are being trained and to which they will be assigned upon completion of such training. Each of the Services indicated that such a procedure is within the capabilities of their personnel management systems.

In addition, the Committee urges the Department of Defense to examine the curricula at the Senior and Intermediate level military schools in order to identify those courses which have a reasonable correlation to academic courses offered at civilian institutions. Such an examination might demonstrate an opportunity for considerable savings if sufficient courses could be made prerequisite to admission to those schools. Officers would have an opportunity to demonstrate their ability and their commitment through off-duty education available at most military installations and thereby relieve the Defense Department from the burden of funding these portions of the officer's education and training.

Because of assurances that the Deputy Assistant Secretary of Defense for Education would personally review the justification for each officer assigned to schools which had cancelled participation in ROTC programs, and that such assignments would only be approved when the academic curriculum had a uniqueness which could not be found elsewhere, the Committee has not recommended a legislative ban on

the assignment of officers to such schools. Nevertheless, the Committee will continue to monitor such assignments as are approved in order to ensure that the Committee's intent in this regard is complied with in FY 1974.

In order to place the above comments in proper perspective, it must be noted that the Committee's inquiry into military training has confirmed the long-standing belief that the training provided to military personnel is of the highest order. The Department of Defense is the nation's largest educational institution, particularly in terms of technical skills. This aspect of the Military Establishment must be maintained in order to continue the combat effectiveness of our military forces in an age of increasingly complex weapons systems. In addition, the broad opportunities for the attainment of skills necessary to accomplish the military mission cannot be overlooked as one of the prime inducements to initial enlistments.

TITLE VI—GENERAL PROVISIONS

Section 601—Southeast Asia support

This section of the bill reported by the Committee establishes a ceiling of \$1,300,000,000, on funds authorized, to be made available for the support of military forces of South Vietnam and Laos during fiscal year 1974.

The President's budget for fiscal year 1974, as originally presented to the Congress, requested an authorization of \$2.1 billion for this purpose. However, as a consequence of the establishment of the Cease Fire Agreement on 27 January 1973, and subsequent discussions with the Committee on Armed Services, the Executive Branch agreed that it could reduce its request for this purpose to \$1.6 billion.

The revised and scaled down program agreed upon between the Committee on Armed Services and the Department of Defense includes a specific budget justification for \$1,185,300,000 for fiscal year 1974 for this purpose. However, the Department pointed out that in addition to the estimated budget requirements for this program as reflected in the revised fiscal year 1974 budget request was a requirement that the dollar ceiling on the MASF Program for fiscal year 1974 be made sufficiently high to permit the utilization of funds from prior years. Thus, for example, departmental witnesses pointed out that "during fiscal year 1973, the current year, through March of this year, we used approximately \$500,000,000 for our MASF Program from funds appropriated for fiscal year 1972 and prior years, and we anticipate there will be a smaller amount in fiscal year 1974, if not larger." Therefore, since the Department interprets Section 601 together with a similar provision in the appropriation bill as a ceiling on the amount of funds that can be utilized during fiscal year 1974 for our military assistance to South Vietnam and Laos, it was requested that a ceiling of \$1.6 billion be established.

The Committee on Armed Services acknowledges the need for some flexibility in the dollar ceiling established in this provision. However, it is of the view that a \$1,600,000,000 ceiling is excessive since it would provide flexibility of almost a half a billion dollars. Therefore, the Committee agreed to establish a ceiling of \$1,300,000,000, which provides approximately \$115,000,000 to accommodate the additional

MASF assistance remaining in the pipeline from fiscal year 1973 and prior years and not heretofore made available to the military forces of South Vietnam and Laos.

The language of Section 601 as approved by the Committee on Armed Services is identical to that previously approved by the Congress for Southeast Asia support for fiscal year 1973 (see Section 601 of P.L. 92-436 and Section 737 of P.L. 92-570).

The Committee recognizes, and the Department of Defense has acknowledged, that some of the language of this section no longer reflects the current factual situation. For example, there are references in each of the sentences of Section 601 to "Free World Forces" in support of Vietnamese Forces; in fact, however, the "Free World Forces" have withdrawn from Vietnam and their reintroduction is prohibited by the Paris Agreement of January 27, 1973, on Ending the War and Restoring Peace in Vietnam. Similarly, with respect to the proviso of the third sentence of Section 601, United States Forces have also withdrawn from Vietnam and the Americans held as prisoners of war have returned.

Logically, therefore, these obsolete references both in the affirmative grant of authority and in the restrictive provisions of Section 601 should have been deleted for the fiscal year 1974. The Department of Defense, however, was reluctant to recommend these deletions in order to avoid any possible inferences that reasons other than obsolescence were the underlying motivation for seeking relief from existing restrictions. In the circumstances, and bearing in mind that the existing language of Section 601 was the result of extensive past deliberations on the floor of the House and the Senate during the course of their consideration of prior authorization and appropriation acts, the Committee on Armed Services decided, as recommended by the Department of Defense, not to modify the existing statutory language.

BACKGROUND

Spokesmen for the Administration who appeared before the Committee on Armed Services emphasized the fragile nature of the current "peace" in Southeast Asia, and pointed out that a continuation of military assistance to both South Vietnam and Laos was essential to prevent a renewal of combat hostilities.

The United States has lived up to the terms of the peace agreement and has withdrawn its military forces from South Vietnam. Every effort is being made by our government to secure a complete cessation of hostilities in that part of the world. However, there remain ominous signs that the government of North Vietnam is not equally dedicated to this proposition.

The most disturbing aspect of North Vietnam actions since the cease fire has been the continued infiltration into South Vietnam of men and materials, in violation of the terms of the 27 January agreement.

Movement of troops and military supplies into South Vietnam has increased considerably the military capability of the communist forces there. As an example, since the 27 January ceasefire agreements, an estimated 41,000 North Vietnamese Army personnel have traversed the various infiltration routes from North Vietnam into South Vietnam, Laos, and Cambodia. Since October 1972, it is estimated the North Vietnamese have deployed about 500 tanks and 190 artillery pieces into South Vietnam. At the present time, the North Vietnamese Army has a substantial number of tanks and artillery pieces in the South—far more than ever before. Furthermore, supplies have moved southward from North Vietnam without interruption since the ceasefire. Many thousands of tons of military supplies have been moved South through the Ho Chi Minh Trail and across the Demilitarized Zone since 27 January 1973. Additionally, Hanoi has continued to construct road nets and to extend POL pipelines through Laos and the Demilitarized Zone.

The meaning of this buildup in military capability is not clear. It could be a hedge against future developments or a prelude to an offensive which could equal or surpass last spring's invasion. Prudence dictates that the situation be monitored closely and that the United States must be prepared to provide materiel support to South Vietnamese forces should the North Vietnamese elect to use the capability they have built up.

In Laos, the situation has also failed to develop in a manner which would suggest the ultimate achievement of a complete cessation of hostilities. Neither the 27 January cease-fire agreement nor the 21 February Accords negotiated by the Laotians themselves have been observed by the contending forces.

The Accords called for peace and reconciliation in Laos and, as a consequence, a relatively effective cease-fire has since appeared to take hold. However, the communists have failed to continue serious negotiations, and as a result, the new coalition government called for in the Vientiane Agreement—the Provisional Government of National Union—has not been formed. Additionally, the communists have refused to cooperate in Laos to resolve the status of our personnel missing in action there; and, of course, the North Vietnam army has not withdrawn from Laos. North Vietnam armed forces in Laos today number at least 85,000 troops. The North Vietnamese have continued to extend their presence in Laos and in South Laos, along the Ho Chi Minh Trail. As a consequence, unprecedented amounts of military material have been moved southward along the Ho Chi Minh Trail since the 27 January Paris Agreements.

In summary, therefore, the situation in Laos is similar to that existing in South Vietnam. Hanoi has still not decided to implement the Paris Agreement and continues to deploy military forces in and through Laos. These circumstances, therefore, require that we maintain our support for the legitimate governments of Laos and South Vietnam so as to provide the peoples of these embattled countries the opportunity to retain their sovereignty and their independence.

MILITARY ASSISTANCE SERVICE FUNDED PROGRAM (MASF)

The MASF authority requested in this legislation is unique, in that it provides military assistance only to South Vietnam and Laos. All other Military Assistance Programs (MAP) are authorized and funded under the Foreign Assistance Act. Therefore, some sentiment now exists in the Congress for transferring this military support for these two nations from the Defense budget to the Security Assistance Program. However, the flexibility provided by the present funded arrangement is still vitally necessary. The situation in Southeast Asia remains fluid. Stability has not been achieved. We must be prepared for contingencies in the future. The Security Assistance Program is not designed to provide for meeting unforeseen operational or emergency requirements. This is extremely important because this capability, available under MASF funding, would enable us to support South Vietnamese and Laotian forces as required if the negotiated peace began to crumble. This flexibility equates to strength and is the essence of the theory of deterrence. Continuation of support for South Vietnam and Laos in the Defense Budget can greatly aid in stabilizing the critical balance which has been achieved in Indochina. Not to continue MASF support at this critical juncture might well be interpreted as an indication of a decrease in our commitment to support these two nations and further encourage the North Vietnamese to increase the tension and continue violations of the Agreement, thus continuing instability and uncertainty in that area.

It was never anticipated that the achievement of stability and peace in Indochina would be easily attained. As Dr. Kissinger noted in Paris at the time of the signing of the Agreement :

We must recognize that ending the war is only the first step toward building the peace. All parties must now see to it that this is a peace that lasts, and also a peace that heals, and a peace that not only ends the war in Southeast Asia, but contributes to the prospects of peace in the whole world.

This request for \$1.3 billion authorization flows from our country's desire to encourage peace in that area. Without the flexibility to meet future contingencies, the present fragile beginnings may be completely undone and the sacrifices made in the past be rendered fruitless. We should not imply to North Vietnam that we will stand idly by if a major offensive is undertaken in violation of Hanoi's solemn agreement to reach a peaceful solution. The authorization request may, therefore, be viewed as a reasonable price to be paid in an effort both to prevent a rapid destabilization in Southeast Asia and to finally secure the peace in that area.

Set out below is a table reflecting the authorization provided in this legislation for the military Assistance Service Funded Program for South Vietnam and Laos as originally presented in the President's Fiscal Year 1974 budget, and that ultimately recommended by the Committee on Armed Services:

AMOUNTS INCLUDED IN THE MILITARY FUNCTIONS APPROPRIATIONS FOR SUPPORT OF FREE WORLD FORCES IN SOUTHEAST ASIA
[In millions of dollars]

Appropriation	Fiscal year 1972					Fiscal year 1973				Original program submission fiscal year 1974			Revised programs, fiscal year 1974		
	South Vietnam	Korea	Laos	Thailand	Total	South Vietnam	Korea	Laos	Total	South Vietnam	Laos	Total	South Vietnam	Laos	Total
Military personnel:															
Army	75.6	80.0	14.8	8.6	179.0	68.8	64.0	19.0	151.8	36.6	18.7	55.3	36.6	10.9	47.5
Navy	.1	.8			.9		.9		.9						
Marine Corps		12.0			12.0										
Total	75.7	92.8	14.8	8.6	191.9	68.8	64.9	19.0	152.7	36.6	18.7	55.3	36.6	10.9	47.5
Operation and maintenance:															
Army	572.7	52.4	57.7	12.8	695.6	573.0	46.1	116.7	735.8	356.3	120.0	476.3	344.3	37.9	382.2
Navy	68.3	.4		1.6	70.3	54.9	.4		55.3	50.5		50.5	41.5		41.5
Marine Corps	1.1	2.1		.2	3.4	.9			.9						
Air Force	113.7	.8	29.3	9.2	153.0	330.0	.6	77.0	407.6	273.0	71.5	344.5	230.1	38.0	268.1
Total	755.8	55.7	87.0	23.8	922.3	958.8	47.1	193.7	1,199.6	679.8	191.5	871.3	615.9	75.9	691.8
Procurement:															
Army:															
Aircraft	.3				.3										
Missile						4.3			4.3						
W. & T. C. V.	.4				.4	4.6	.1	.1	4.8	1.8	.2	2.0	1.8	.2	2.0
Ammunition	1,047.9	17.5	61.1	.2	1,126.7	724.7	11.7	83.2	819.6	331.3	40.8	372.1	73.0		73.0
Other	50.0	.7	6.6	4.0	61.3	25.9		1.2	27.1	4.0	.5	4.5	4.0	.5	4.5
Navy, other	10.2			.3	10.5	13.7			13.7	7.5		7.5	7.5		7.5
Marine Corps	1.5	1.2		1.4	4.1	.6			.6						
Air Force:															
Aircraft	98.3		8.5	4.7	111.5	265.9		11.0	276.9	322.3	9.1	331.4	313.2	7.3	320.5
Other	119.4		35.3	.4	155.1	190.4		45.3	235.7	176.3	50.4	226.7	33.3	5.2	38.5
Total	1,328.0	19.4	111.5	11.0	1,469.9	1,230.1	11.8	140.8	1,382.7	843.2	101.0	944.2	432.8	13.2	446.0
Summary:															
Army	1,746.9	150.6	140.2	25.6	2,063.3	1,401.3	121.9	220.2	1,743.4	730.0	180.2	910.2	459.7	49.5	509.2
Navy	78.6	1.2		1.9	81.7	68.6	1.3		69.9	58.0		58.0	49.0		49.0
Marine Corps	2.6	15.3		1.6	19.5	1.5			1.5						
Air Force	331.4	.8	73.1	14.3	419.6	786.3	.6	133.3	920.2	771.6	131.0	902.6	576.6	50.5	627.1
Total	2,159.5	167.9	213.3	43.4	2,584.1	2,257.7	123.8	353.5	2,735.0	1,559.6	311.2	1,870.8	1,085.3	100.0	1,185.3

Section 602—Prohibition against aid to North Vietnam

The purpose of this section of the bill is evident in its language. This provision creates a flat prohibition against the utilization of any funds for the purpose of carrying out, directly or indirectly, any economic or military assistance for or on behalf of North Vietnam during the fiscal year ending June 30, 1974.

Stated another way, the language is a statutory expression by the Congress of its determination that the President shall not utilize any funds in the FY-1974 budget or funds previously appropriated to provide assistance to North Vietnam unless it is specifically approved by the Congress.

The language is consistent with the statement of the President in which he said he would fully consult with the Congress with regard to any possible economic assistance to North Vietnam.

Section 603—Limitation on multi-year procurement contracts

This provision of the bill is an almost identical restatement of the language which was included in last year's authorization act as Section 607 of Public Law 92-436. This provision originated last year in the House Armed Services Committee and has been in effect since September 26, 1972.

The purpose of the provision is to prevent the Department of Defense from entering into a multi-year procurement contract which contains cancellation charges exceeding \$5,000,000 unless such a procurement contract has been authorized by the Congress. The Department of Defense has advised that incorporation of this prohibition in Public Law 92-436 has not adversely affected the procurement program of the Defense Department and therefore has no objection to the inclusion of this provision in this year's bill.

Section 604—Codification of statutes requiring annual authorization for Department of Defense Appropriations

Section 604 codifies two provisions of existing law, one of which is Section 412 of Public Law 86-149, as amended, and the other is Section 506 of Public Law 92-156.

The codification clarifies the statutory requirement for annual authorization for appropriations for various activities of the Department of Defense. It brings into perspective the various changes to the statutory language which have occurred since the original enactment of Section 412 of Public Law 86-149 by eliminating superfluous language and provisions which had been executed and no longer have any force or effect.

The Department of Defense advised the Committee on Armed Services it had no objection to the language of this section.

III. REVIEW OF WEAPONS PROCUREMENT AUTHORIZED BY SERVICE

DEPARTMENT OF THE ARMY

Aircraft	-----	\$181, 000, 000
Missiles	-----	574, 200, 000
Weapons and tracked combat vehicles	-----	238, 000, 000
Total	-----	\$993, 200, 000

Airplane, Utility, U-X

AIRCRAFT

MISSILES

Safeguard
Dragon
Hawk
Lance

Pershing
TOW
Air Defense Command and
Control System, AN/TSQ-73

WEAPONS AND TRACKED COMBAT VEHICLES

Recovery Vehicle, Light, FT, M578
Tank, Combat, FT, 105mm Gun, M60A1
Trainer, Turret, for M60A1 (PI) Tank, M30A1
Launcher, Incendiary, Rocket, 66mm, M202A1
Machine Gun, 7.62mm, M60
Machine Gun, 7.62mm, M219/M73
Rifle, 5.56mm, M16A1

The foregoing is a tabulation of items in the aircraft, missile, and weapons and tracked combat-vehicle categories for the Army for which procurement authorization in fiscal year 1974 is provided in the present bill. A general description of each item appears below.

ARMY AIRCRAFT

Airplane, utility, U-X

The U-X utility fixed wing aircraft is a twin engine airplane with a pressurized cabin and a capability for transporting a payload of 2,000 pounds (8 passengers and a crew of 2) at a cruise speed of 210 knots for a mission range of 1,000 nautical miles. It will be an FAA certificated off-the-shelf aircraft. The primary mission of this aircraft is to provide command and staff aviation support for major commands, Military Advisory Groups and Missions. The aircraft will also be adaptable as a cargo carrier and Aero-Medical Evacuation aircraft. The aircraft will replace older U-8 aircraft and be used with the existing U-21 fleet.

ARMY MISSILES

Safeguard

The Safeguard System consists of 2 types of phased-array radars, Missile Site Radar and Perimeter Acquisition Radar, their associated data processors, and 2 types of missiles, SPRINT and SPARTAN.

Dragon

The Dragon is a man-portable system utilizing a command to line-of-sight guided missile that is launched (recoilless) and automatically guided to the target by a tracker which issues electronic commands by a wire link to the missile. The weapon is made up of the "round" (launcher and missile) and a tracker. The Dragon will provide the primary antitank capability for Infantry platoons and will be employed within platoon areas. In addition, it can provide assault fire against hard-point targets such as weapon emplacements and field fortifications. It replaces the 90mm recoilless rifle.

Hawk MIM-23-B

HAWK provides low and medium altitude, all-weather air defense against air-supported targets in the field Army area. Hawk is a key element in the Army's mid-range air defense plan and reinforces the visual acquisition capability of other forward air defense systems, such as REDEYE and Chaparral. Hawk also provides air defense for strategic strike force locations. Improved Hawk (MIM-23B) has the same general mission as Basic HAWK with greatly improved capabilities. It has greater accuracy and range, takes less time to react and can attack targets moving at higher speeds and greater altitudes.

Lance

Lance is a surface-to-surface ballistic missile system designed to provide mid-range fire support to corps and divisional forces. The system includes an inertially guided missile with pre-packaged liquid propellants, a self-propelled full track launcher, a transporter-loader and miscellaneous test and handling equipment.

Pershing

The Pershing missile system is a completely ground-mobile, air-transportable, surface-to-surface, 2-stage, solid-propellant, inertially guided ballistic missile system. The primary mission of the Pershing is to provide a nuclear firing capability.

TOW

TOW is a tube-launched, optically-tracked, wire-guided antitank missile system. The system will defeat the heaviest known enemy armor. It can be mounted and fired from the Armored Personnel Carrier, the Jeep or the Mechanical Mule. It is also adaptable to the heliborne antitank role. To engage the enemy, the TOW gunner has only to acquire and track the target by aligning the crosshairs of the optical sight on the target. TOW will be used to attack enemy armored vehicles primarily but may be employed in the assault of bunkers or other hardpoint targets. TOW replaces the 106mm recoilless rifle and the SS-11 antitank system in the heliborne role.

Air defense command and control system, AN/TSQ-73

The AN/TSQ-73 is a micro-miniaturized, largely automated air defense command and control system, mounted in a single shelter and operated by a three-man crew. The system is carried on a five-ton truck. The AN/TSQ-73 coordinates the air defense activities of multiple Hawk and Nike Hercules batteries against hostile aircraft and exchanges target information with other services.

ARMY WEAPONS AND TRACKED COMBAT VEHICLES

Recovery vehicle, light, FT, M578

The M578 is a lightly armored, self-propelled, full-tracked, air transportable wrecker. The M578 performs the recovery role for vehicles up to 30 tons, has a tow-winch capability of 60 tons and is operated by three crew members. This vehicle has a cruising speed of 34 MPH and cruising range of 450 miles utilizing a 405 HP diesel engine and mounts a .50 caliber machine gun as its only armament.

Tank, combat, FT, 105mm, M60A1

The M60A1 is the currently standard medium tank powered with a 750 horsepower diesel engine and mounting a 105mm gun as its primary armament. The tank is operated by a crew of four, weighs approximately 52.5 tons, is capable of a ground speed of 30 MPH and has a cruising range of 310 miles.

Trainer, turret, for M60A1 (PI) tank, M30A1

The M30A1 is a fully-functional tank turret mounted on a wheeled stand with portions of the turret walls and top cut out to permit student observation. The power is provided by commercial 220 volt, AC current rather than a tank engine. All training missions can be performed by the trainer except firing of live ammunition. The trainer allows eight students to simultaneously receive instruction from one instructor.

Launcher, incendiary, rocket, 66mm, M202A1

This launcher is an assembly of four symmetrically arranged 66mm tubes which deliver a pyrophoric incendiary rocket 200 meters on point targets.

The launcher provides troops a shoulder fired flame weapon to neutralize bunker positions, fortifications, personnel and all wheeled vehicles. It has a maximum range of 700 meters.

Machine Gun, 7.62mm, M60

The machine gun, 7.62mm, M60, is a general purpose, light-weight machine gun, capable of being fired from various mounts. It can be fired from a built-in bipod, a tripod (M122), from the hip or from the shoulder in a standing, sitting or prone position. The weapon is gas-operated, air-cooled, link-belt fed machine gun with an approximate rate of fire of 550 RPM. It has a quick-change barrel chambered for the 7.62mm NATO cartridge. The primary use of this weapon is for ground operations.

Machine Gun, 7.62mm, M219/M73

The M219 machine gun is a short receiver, vehicular mounted weapon designed to mount in compact turrets. It is mounted alongside the main gun in the M60 series tank, the M48A3 tank, combat engineer vehicle, General Sheridan Armored Reconnaissance Airborne Assault Vehicle, flame-thrower carrier and armored scout car. This is the only weapon of its kind in the inventory that fires the 7.62mm NATO cartridge from the turret of a mobile vehicle.

Rifle, 5.56mm, M16A1

The M16A1 is the currently standard rifle for the United States Army. It has an effective range of 460 meters and a maximum range of 2,653 meters. It will fire from 45 to 65 RPM semi-automatic and 150 to 200 RPM automatic. The rifle weighs 7.6 pounds.

DEPARTMENT OF THE NAVY

This bill provides \$3,788.2 million in authorization of appropriation for naval ship construction and conversion.

The ships authorized for construction under the Fiscal Year 1974 program in this bill are:

1 Trident ballistic missile submarine

This is the first of the new undersea long range missile system submarines, designed with new characteristics of quietness and operation. These design advances increase the missile defense problems of a potential enemy and enhance the continued invulnerability of our undersea deterrent.

1 Nuclear-powered aircraft carrier (CVN-70)

Authorization of this item provides for construction of the Navy's fourth nuclear-powered aircraft carrier, the third ship of the NIMITZ (CVAN-68) class. Delivery of this ship, in the 1980 time frame, will provide a nuclear-powered two-carrier rapid reaction force in each major ocean area, Atlantic and Pacific.

5 Nuclear attack submarines (SSN)

These nuclear attack submarines are follow-on ships of the high-speed SSN-688 class. These ships are the only weapon systems capable of operating in ocean areas under enemy air and surface control.

7 Destroyers (DD-963 class)

The DD-963 class provides high speed escort assets in replacement of the aging U.S. destroyer fleet. The ship combines major anti-air, anti-submarine and anti-surface capabilities in a single hull, to supplement the limited nuclear frigate construction program.

Service and pollution abatement craft

The request is for four large harbor tugs, five non-self propelled fuel oil barges, and ten pollution abatement craft. The latter are designed to collect oily, solid and other wastes from ships in harbor for transfer to a collection and disposal facility ashore.

Conversion and Modernization

The Fiscal Year 1974 conversion program effects five ships. The authorization would be used for:

- (1) Two fleet ballistic missile submarines (SSBN) to accommodate the POSEIDON missile system;
- (2) Three guided missile frigates (DLG), including one nuclear-powered frigate (DLGN), to provide for an updated more effective surface-to-air missile system and improved search and fire-control radars and computers.

Long-Lead Time Costs

Advance procurement costs that are included in the authorization for appropriations for ship construction and conversion are the following amounts for long leadtime items for:

- (1) One fleet ballistic submarine tender (AS) conversion.
- (2) The Trident submarine program.
- (3) Nuclear attack submarines.
- (4) The DD-963 class destroyer.
- (5) The sea control ship program.
- (6) The patrol hydrofoil, missile craft.
- (7) The patrol frigate.
- (8) The nuclear frigate program.

Other costs

The authorization also includes the following "other" costs:

- (1) Outfitting Material—For government furnished repair parts and other material required to fill initial ship allowances of operating spares.
- (2) Post Delivery—To correct ship deficiencies defined during acceptance or shakedown trials.
- (3) Cost Growth—To fund contract escalation costs on CVAN-69, previously identified but deferred without prejudice in fiscal years 1972 and 1973, plus amounts required to fund a growth from target to ceiling price in the LHA contract.
- (4) Escalation—To fund contract escalation reserves for labor and material cost increases in fiscal year 1973 and prior year programs.

NAVY AND MARINE CORPS AIRCRAFT

Authorization request for Navy and Marine Corps aircraft

The Navy request of \$2958.3 million provides for the procurement of 305 aircraft for \$2338.2 million including initial spares and advance procurement of long lead time items for aircraft to be included in next year's program. The remaining \$620.1 million is for modification of aircraft, purchase of replenishment spares and repair parts, and for support equipment, and facilities. This request is for 305 aircraft including 17 separate types. The average quantity thus is approximately 18 aircraft of each type, and the largest single buy is 48.

A-4M Skyhawk

The A-4M is a high-performance attack aircraft utilized by the Marine Corps for close-in ground support. It is manufactured by the McDonnell-Douglas Corporation, Long Beach, California. It is powered by an uprated JP52-P-508 engine manufactured by the United Aircraft Corporation, Pratt and Whitney Division, East Hartford, Connecticut.

A-6E Intruder

The A-6E is the Navy/Marine Corps long range, all weather attack aircraft. This aircraft is capable of very accurate navigation and weapons delivery under all weather conditions and at night. The airframe is manufactured by the Grumman Aerospace Corporation, Bethpage, Long Island, N.Y. It is powered by two uprated J-52 engines manufactured by the United Aircraft Corporation, Pratt and Whitney Division, East Hartford, Connecticut.

The 15 aircraft requested continues inventory modernization program and provides for a continued production capability.

EA-6B Prowler

The EA-6B is a carrier-based advanced electronic warfare aircraft used to jam radar-controlled weapons during strike missions. The 6 aircraft requested will be the third increment to be equipped with an expanded electronic countermeasure capability.

AV-8A/TAV-8A Harrier

The AV-8A is a single engine, high performance jet aircraft that can take-off and land vertically by the precise control of the direction of the jet exhaust. The aircraft is being procured for the U.S. Marine Corps in order to enhance their Close Air Support capability. The aircraft carries a variety of conventional weapons and is equipped with two 30 m.m. cannons. The aircraft is also being used in conjunction with the current Interim Sea Control Ship trials.

The TAV-8A is a two seat version of the AV-8A and has the same performance, flight characteristics and avionics system. The TAV-8A is being procured to provide better and more rapid pilot training.

A-7E Corsair II

The A-7E is a single-place land/carrier-based attack aircraft which is the mainstay of the Navy's carrier based attack force. It is capable of delivering tactical nuclear weapons and practically all types of conventional ordnance within the Navy's inventory.

F-14A Tomcat

The F-14A is an all-weather, carrier-based supersonic fighter capable of engaging multiple air targets simultaneously at various altitudes. It will be the Navy's primary weapon system for fleet air defense. The airframe is manufactured by Grumman, Bethpage, N.Y. and the engines are produced by Pratt and Whitney, Hartford, Conn.

UH-1N Iroquois

The UH-1N is the latest model of the "HUEY" helicopter incorporating a twin-engine power package which increases mission reliability, payload, flight safety and maintainability. The primary missions of this versatile Navy and Marine helicopter are command and control, troop transport, medical evacuation and carrier liaison. Alternate missions include movement of cargo and equipment in amphibious assault and subsequent operations ashore, local base rescue, light vertical replenishment, and search and rescue. The airframe is manufactured by Bell Helicopter Co., Fort Worth, Texas and the engines are produced by United Aircraft of W. Va., Bridgeport, West Virginia.

AH-1J Sea Cobra

The AH-1J is an assault helicopter utilized by the Marine Corps to provide close-in ground fire suppression during aerial and ground escort operations and landing zone preparation. The AH-1J is equipped with a 20mm nose-mounted turret gun and employs a wing stores armanent management system for selective release and fuzing options for externally carried weapons.

P-3C Orion

The P-3C is a land-based, high speed turboprop patrol aircraft designed for anti-submarine warfare. It is powered by four T-56 turboprop engines and carries a crew of ten.

The 12 aircraft being procured continue an orderly transition of Patrol squadrons from P-3A's to the P-3C aircraft.

S-3A (Viking)

The S-3A is a twin turbo fan powered carrier based anti-submarine aircraft with a crew of four. It is designed to replace the 20+ year old S-2 aircraft and incorporates the latest ASW sensors which are integrated through a central general purpose digital computer.

The 45 aircraft recommended this year will bring the production total to 93 and will permit the transition of four additional squadrons from the S-2 to the S-3A.

E-2C (Hawkeye)

The E-2C is an all weather, five place, carrier based airborne early warning and command and control aircraft. The twin turbo-prop design features a high wing with a distinctive 24 foot diameter rotodome and four vertical tail surfaces.

The primary mission of the E-2C is to extend the defense perimeter of the task force to provide early warning of approaching forces and vector interceptors into attack position. Numerous other functions such as search and rescue coordination, strike and traffic control and communications relay may be performed.

T-2C Buckeye

The T-2C is a two-place, twin engine basic jet trainer used to train student aviators in basic jet flight. It is capable of operating from both land bases and carriers. The airframe is manufactured by North American Rockwell, Columbus, Ohio, and the engines are produced by General Electric, West Lynn, Mass.

The 24 aircraft represent an increment in a phased procurement plan to allow retirement of over-aged T-2A's and to support the planned Pilot Training Program.

(Light) twin-engine medium transport

The (light) twin-engine medium transport is a commercially available land based, FAA certified transport powered by two turbofan engines. It carries a minimum of 12 passengers and baggage, or equivalent amount of cargo.

This aircraft will replace 20+ year old C-118 being used by the Marine Corps for logistic support.

EC-130Q (special mission) Hercules

The EC-130Q is a basic C-130 aircraft, modified to provide an airborne communications relay. The aircraft is provided with increased engine performance generation capacity and special communications, navigation, and flight instrument systems.

KC-130H Hercules

The KC-130H is a modified version of the C-130 aircraft equipped with removable external and internal refueling tanks. With internal refueling equipment removed the aircraft can be used as a cargo or transport plane.

The 4 aircraft requested represents the first increment towards modernizing the Marine Corps tanker force.

NAVY AND MARINE CORPS MISSILES

Poseidon

Poseidon is a strategic ballistic missile capable of launch from a submerged FBM submarine. Poseidon employs technology developed

as a result of operational testing and service use of the highly reliable Polaris missile. The principal advantage of Poseidon is its adaptability to overcome a broad spectrum of defenses. The Multiple Independently Targetable Reentry Vehicle (MIRV) will ensure continued effectiveness of the FBM system.

Trident (ULMS)

Trident is a long range strategic ballistic missile that will be deployed on the Trident submarine. The initial Trident missile, the C-4, will also be compatible with backfit into existing FBM submarines. The FY 74 program will provide engineering services to ensure all facilities planning, installation provisioning and documentation are in consonance with the overall design and testing program and to monitor tests, exercises, and demonstrations to ascertain impact on facilities planning.

Sparrow (AIM-7F)

The Sparrow is a medium range, all weather, all aspect, semi-active air-to-air missile for use on Navy and Air Force F-4's, F-14's, and F-15's. It is also used as a point defense missile on surface combatants in the Point Defense and NATO Seasparrow Surface Missile Systems. The solid state AIM-7F is the most advanced of the Sparrow series. This year's procurement is for AIM-7F production.

Sidewinder (AIM-9H)

The Sidewinder is a short range, infrared homing missile employed by all Navy tactical airplanes. The procurement request for this year is for the solid state AIM-9H version. Two production sources have been qualified for competitive procurement.

Phoenix (AIM-54A)

The Phoenix missile is an air-to-air missile, with a long range stand-off capability that will be carried by the F-14. The missile may be launched against widely separated aircraft or missile targets in all-weather, heavy jamming environment.

Shrike (AGM-45)

The Shrike is an air or surface launched anti-radiation missile used by the Navy and the Air Force to destroy or suppress radar-directed defense systems. The FY 1974 procurement will aid in regaining an acceptable inventory position.

Condor (AGM-54)

The Condor missile is a medium range, supersonic, television guided missile system that is capable of being controlled remotely by the operator in the launch aircraft. Thus, the operator can search the area, locate the target, lock the missile tracker onto the selected target and update the missile air point in desired to achieve a more effective impact location.

Standard ARM (AGM-78)

The Standard ARM missile (air-to-surface) is an outgrowth and modification of the Standard missile (ship launched surface-to-air) to produce in the shortest time span an antiradiation, all weather missile capable of destroying radar installations. The FY 74 request will provide support to sustain the operational capability in the fleet.

Harpoon (AGM-84A)

The Harpoon is an air-launched/surface-launched anti-ship cruise missile planned for use aboard the DE, DDG/DEG, DLG/DLG(N) and DD-963, PF and PHM ships, the P-3 aircraft and on nuclear attack submarines. The Harpoon development program started in March 1970 and has proceeded satisfactorily.

Standard MR

The Standard MR missile, used by the Navy's guided missile destroyers and guided missile destroyer escorts, is the medium range version of the Standard missile family. Although used primarily as an anti-aircraft and anti-missile weapon, the Standard MR missile also has a limited surface-to-surface capability. This missile provides improved overall performance, reliability, multiple target discrimination and electronic countermeasures.

Standard ER

The Standard ER missile, used by the Navy's guided missile frigates, cruisers and aircraft carriers, is a version of the Standard missile which obtains extended range by use of a booster rocket motor. Although primarily an anti-aircraft and anti-missile weapon, the Standard ER missile also has a limited surface-to-surface capability. Improved performance characteristics, reliability, multiple target discrimination, and electronic countermeasures have been provided the missile.

Standard ARM

The Standard (anti-radiation) (ARM) surface-to-surface missile is essentially the same missile used by the Navy and Air Force as an air-to-surface weapon. The Standard ARM missile has been adapted for surface use in Patrol Gunboats (PG's). The missile will also be used in a limited number of guided missile destroyers and guided missile destroyer escorts to increase the Navy's surface-to-surface missile capability.

FLEET SATELLITE COMMUNICATIONS (FLTSATCOM)

The FLTSATCOM System is a UHF satellite communications system to provide worldwide two-way and broadcast communications to ships, submarines and selected aircraft in the Navy. It will provide a significant improvement in reliability and capacity. The System is an outgrowth of proven UHF satellite communications technology. The Navy program calls for the acquisition and launch of four satellites and one spare, as well as transmitter-receiver terminals to be installed in the specified ships, aircraft, submarines and shore facilities.

TORPEDOES AND OTHER WEAPONS

MK 48-1 torpedo

The MK 48-1 torpedo is used against high speed, deep-diving nuclear submarines and against surface craft. It is a high speed, long range acoustic weapon carried by submarines. It is designed so that it can also be fired from surface ships. The FY 1974 program will continue the buildup of fleet assets.

Captor

Captor is a new anti-submarine weapon system, consisting of a case, detection electronics, and a homing torpedo. Upon detecting a hostile submarine within its radius of effectiveness, Captor launches the homing torpedo which then attacks the submarine. Captor can be used in many areas of the world, and can be delivered by aircraft, surface ships or submarines.

Mobile Target MK-30

The ASW Mobile Target MK-30 Mod 1 is a self-propelled torpedo-type, submarine-simulation vehicle designed to provide air, surface and submarine ASW units with a means to conduct realistic ASW exercises including torpedo firings when the services of submarines are not available. The FY 1974 procurement is an increase from FY 1973, reflecting the need to begin building up an inventory adequate to meet Fleet training needs.

MK-22 Machine gun

The 20mm MK-22 machine gun has been designed to replace the now obsolescent MK-4 and MK-16 guns. In addition to new mount design the MK-22 will use the safer, standardized tri-service and NATO ammunition. In addition to use on small craft and amphibious ships the 20mm machine gun may be employed on any ships for self-defense.

Close-in weapons system (CIWS)

The Phalanx Close-In Weapons System is an automatic, rapid reaction lightweight, self-contained gun/radar weapon system for very close-in protection, primarily against the anti-ship missile threat. The system is suitable for installation in most classes of ships. CIWS will undergo extensive at-sea testing in late spring and summer.

DEPARTMENT OF THE AIR FORCE

The amounts recommended by the committee for procurement by the Air Force follows:

Aircraft	-----	\$2, 739, 100, 000
Missiles	-----	1, 573, 200, 000

AIRCRAFT

Combat aircraft:

F-3A (AWACS).
 F/TF-15A, tactical fighter aircraft.
 A-10, close air support attack aircraft.
 F-5A, international fighter.
 F-4E, tactical fighter aircraft.
 F-5E, international fighter.

Airlift aircraft:

C-5A, cargo/transport aircraft.
 C-130E/H, transport aircraft.

Trainer aircraft: T-41D, trainer aircraft.

Other aircraft:

AABNCP, advanced airborne command post.
 UH-1H, helicopter.
 CH-47, transport helicopter.

MISSILES

LGM-30F/G Minuteman II/III.
AGM-45A Shrike.
AFM-65A Maverick.
AFM-69A SRAM (Short Range Attack Missile).
AIM-7F Sparrow.
Target Drones.

A summary of the proposed items for which funds will be applied by the Department of the Air Force in the area of aircraft and missiles is outlined above. Below is a description of the items.

AIR FORCE AIRCRAFT

E-3A (AWACS).—The AWACS will be an airborne surveillance, command, control, and communications system for use by tactical and defensive forces. The airborne platform, a modified Boeing 707 aircraft, will be common for both defensive and tactical operations. Interchangeability in missions will be easily accommodated with a change of central processor software. The manufacturer is the Boeing Company, Seattle, Washington.

F/TF-15A.—The F-15 is a twin-engine, single-crew, swept-wing advanced tactical fighter being developed for the Air Superiority mission. It is characterized by a high thrust-to-weight ratio and low wing loading for maximum maneuverability. It is designed to counter a series of new Soviet fighter aircraft which will have a counterair capability superior to the F-4E. It will replace the F-4 as the primary Air Superiority aircraft in the mid-seventies. The airframe manufacturer is McDonnell-Douglas, St. Louis, Missouri, and the engine manufacturer is Pratt & Whitney, West Palm Beach, Florida.

A-10.—The A-10 is a single-placed, twin turbo fan powered, fixed wing, subsonic attack aircraft capable of carrying 16,000 pounds of external load. It will be armed with one 30mm rapid fire high muzzle velocity gun and is specifically designed for the close air support role. The manufacturer is Fairchild Republic, Farmingdale, L.I., New York, and the principal subcontractor is General Electric Company, Lynn, Massachusetts.

F-5A.—The F-5A is a single-place, lightweight, twin engine jet (after-burning) super-sonic fighter aircraft. The F-5A provides Free World Forces with an aircraft possessing the capability of air superiority, interdiction and close air support of ground forces.

F-4E.—The F-4E is a two place, twin after-burning engine, swept wing tactical fighter. It is designed to perform the tactical missions of counterair, interdiction, and close air support. It can carry a wide spectrum of tactical weapons in varying combinations. The aircraft's avionics provide for all weather navigation, search and attack with air-to-air missiles, computer-aided bombing, and warning of enemy threat radars. The manufacturer is McDonnell-Douglas, St. Louis, Missouri, and the principal subcontractor is General Electric Company, Evendale, Ohio.

F-5E.—The F-5E is a twin-engine jet fighter designed to be uncomplicated to fly and to maintain. It is an improved version of the F-5 series of Freedom Fighters. It has higher-thrust engines, more

fuel capacity and more wing area than earlier F-5 versions which increase its air-to-air fighter capability. This aircraft will provide the free world forces in Southeast Asia an increased air-to-air, self-defense capability. The primary mission of the aircraft is air superiority and air defense. A limited ground-attack capability will be available. The manufacturer is Northrop Corporation, Hawthorne, California, and the principal subcontractor is General Electric Company, Lynn, Massachusetts.

C-5A.—The C-5A is a heavy logistic 4 engine jet transport which has a high cruise speed of 470 knots and will carry a maximum payload of 265,000 lbs. The basic mission range is 5,800 nautical miles. This heavy transport provides a fast reaction capability to airlift out-sized cargo in support of combat or support units of all services under general or limited war conditions. The manufacturer is Lockheed Georgia Co., Marietta, Georgia and the principal subcontractor is General Electric, Evendale, Ohio.

C-130E/H.—The C-130 is a medium size tactical transport powered by four T-56 dash 7B or dash 15 turboprop engines. It has a ferry range of 4500NM, operating at a service ceiling of 35,000 feet while cruising at a speed of 280 knots. The C-130 provides immediate and responsive air movements and delivery of combat troops and supplies directly into objective areas through airlanding, extraction, airdrop, and other delivery techniques. The manufacturer is Lockheed Georgia Company, Marietta, Georgia.

T-41D.—The T-41D is required to meet the needs of the free world forces in Southeast Asia for pilot training. It is an all-metal, high-wing, single-engine aircraft with fixed tricycle landing gear. The aircraft has dual controls with side-by-side seating for 2 pilots and provisions for 2 additional passenger seats. It is essentially a Cessna 172. The manufacturer is Cessna Aircraft Company, Wichita, Kansas, and the principal subcontractor is Continental Motor Company, Muskegon, Michigan.

AABNCP.—The Advanced Airborne Command Post would provide the National Command Authorities (NCA) with an Airborne Command Post system with significantly greater physical size, endurance, flexibility, and Nuclear War Command and Control Capability than the current EC-135 aircraft. This system will significantly improve our capability to control and direct our strategic forces during a nuclear conflict between the US and other major powers. The manufacturer is Boeing Company, Seattle, Washington.

UH-1H.—The UH-1H is a low-silhouette, high-performance helicopter which is the standard small troop transport used by the Army. The Air Force is requesting procurement of these aircraft to replace Army assets turned over to the Vietnamese Air Force as part of the Vietnamization program. The manufacturer is the Bell Helicopter Company, Fort Worth, Texas.

CH-47.—The CH-47 is a high performance all weather, day/night, tandem rotor helicopter powered by two T-55 gas turbine engines. It has broad mission flexibility as evidenced by an unobstructed 30 foot long cargo compartment with straight-in rear loading and external cargo hook. The CH-47 provides air mobility to military forces in the field by the transport of personnel, weapons, bulk liquids, and cargo

in both combat assault support and logistical support roles. The manufacturer is Boeing-Vertol, Morton, Pennsylvania.

AIR FORCE MISSILES

LGM-30F/G Minuteman II/III.—The Minuteman is a three stage solid propellant strategic offensive ICBM. Minuteman II carries a single re-entry vehicle and has the capability to penetrate area type defenses. Minuteman III is designed to have a capability for the deployment of multiple re-entry vehicles. The Force Modernization program provides for the continued conversion of Minuteman I sites and launch control facilities to a configuration that will have the capability to receive a Minuteman III missile; Upgrade Silo Hardening to enhance prelaunch survivability; and the modernization of Minuteman III facilities to incorporate the Command Data Buffer system which will provide a capability to more effectively posture and maintain the single integrated operational plan (SIOP).

AGM-45A Shrike.—The AGM-45A Shrike is an anti-radiation air-to-ground missile used with the F-105G and F-4C Weasel aircraft to destruct enemy ground radar installations. The Shrike is a Navy procured missile.

AGM-65A Maverick.—The AGM-65A Maverick is an air-to-ground missile for use on the F-4D/E and A-7D aircraft to destroy visible tactical targets, such as tanks, armored personnel carriers, and field fortifications. The FY 1974 quantity is the third year buy of a four year production program.

AGM-69A SRAM (Short Range Attack Missile).—The AGM-69A SRAM is an air-to-ground launched missile for use on the B-52G/H and FB-111 aircraft. The SRAM is equipped with a nuclear warhead designed to attack targets defended by sophisticated defense systems. The FY 1974 quantity completes procurement of a four year SRAM production program.

AIM-7F SPARROW.—The AIM-7F Sparrow is a supersonic, semi-active, all weather solid state air-to-air missile for use on the F-4B and F-15 aircraft. The FY 1974 quantity is a first year buy of the AIM-7F Sparrow production program. The Sparrow is a Navy procured missile.

Target Drones.—The recoverable, High Altitude Supersonic Target (HAST) and the full-scale, maneuverable, after-burning, non-manned (PQM-102) Target Drones are airborne vehicles used to develop air-to-air missile tactics, and to test and evaluate aircraft and missile weapon systems. The FY 1974 procurement program provides for initial production of both the HAST and PQM-102 Target Drones.

COMMITTEE POSITION

The Committee on Armed Services, a quorum being present, approved the bill by a vote of 38 to 1.

FISCAL DATA

ANNUAL COST

If the total amounts authorized in this bill are appropriated, the cost of the bill will be \$21,394,997,000.

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FIVE-YEAR COST PROJECTION

Pursuant to Section 7 of Rule 13 of the House of Representatives the committee attempted to ascertain the cost of the present bill in the present and five following fiscal years.

The following letter from the comptroller of the Department of Defense addresses itself to this requirement:

THE DEPUTY SECRETARY OF DEFENSE,
Washington, D.C., July 16, 1973.

Hon. F. EDWARD HÉBERT,
*Chairman, Committee on Armed Services,
House of Representatives.*

DEAR MR. CHAIRMAN: In accordance with Section 252(b) of the Legislative Reorganization Act of 1970 (PL 91-510), indicated below is an estimate of how the \$21,959.1 million authorization requested in FY 1974 will be expended over the FY 1974-1979 period:

Fiscal year:	Millions
1974	\$6,600.0
1975	8,500.0
1976	3,600.0
1977	1,600.0
1978	1,000.0
1979	659.1

The extreme uncertainty of future year Defense programs precludes any precise estimates, but I can also provide the general estimate that to support the forces contained in the Annual Defense Report on the FY 1974 Budget, authorizations for procurement and RDT&E in the range of \$22-\$24 billion (in FY 1974 dollars) would be required for each of the next five years.

Sincerely,

BILL CLEMENTS.

The committee would point out that this is an annual authorization act and the authorizations herein provided are subject to annual review and revision by the committee and the Congress. Also, the committee would remind the House that limitations on the availability of appropriations for the categories of authorization herein provided are normally included in appropriation legislation.

DEPARTMENTAL DATA

The legislation was requested by the Department of Defense and is in accordance with the program of the President as is illustrated by the correspondence set out below:

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,
Washington, D.C., January 29, 1973.

Hon. CARL ALBERT,
*Speaker of the House of Representatives,
Washington, D.C.*

DEAR MR. SPEAKER: There is forwarded herewith proposed legislation "To authorize appropriations during the fiscal year 1974 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test

and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces, and for other purposes." This proposal is a part of the Department of Defense legislative program for the 93rd Congress, and the Office of Management and Budget has advised that enactment of the proposal would be in accord with the program of the President. This proposal is being sent to the President of the Senate.

This proposal would provide authorization for appropriations as needed for procurement in each of the categories of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and for other weapons for each of the military departments in an amount equal to the new obligational authority included in the President's budget for fiscal year 1974. In addition, the proposal would provide fund authorization in amounts equal to the new obligational authority included in the Presidents' budget for fiscal year 1974 in total for each of the research, development, test and evaluation appropriations for the military departments and the defense agencies.

Title III of the proposal prescribes the end strength for active duty personnel for each component of the Armed Forces as required by subsection (d) (1) of section 412 of Public Law 86-149, as amended, in the number provided for by new obligational authority in appropriations requested for these components in the President's budget for fiscal year 1974.

Title IV of the proposal provides for the average strengths of the Selected Reserve of each Reserve component of the Armed Forces in the number provided for by the new obligational authority in appropriations requested for these components in the President's budget for fiscal year 1974.

This proposal would also include for fiscal year 1974 language authorizing appropriations of the Department of Defense to be made available for the support of the (1) Vietnamese and other Free World Forces in Vietnam, and (2) local forces in Laos, the terms of which are identical to the most recent congressional actions on Department of Defense Authorization and Appropriation Acts for this purpose.

The reporting requirements of subsection (b) of section 401 of Public Law 89-267, as amended, are considered permanent and would be equally applicable to this provision.

Section 604 of Public Law 92-436, September 26, 1972 imposed certain new requirements on the Department of Defense by amending section 412 of Public Law 86-149 by adding subsection (c) which (1) requires authorization each fiscal year beginning with FY 1974 of the average military training student loads, and (2) requires an annual written report to Congress beginning March 1, 1973, recommending the average student load for each category of training for the next three fiscal years. The data necessary to comply with these requirements is being developed. As soon as this data is available, but no later than March 1, 1973, the required report will be submitted to the Congress together with the necessary provision for inclusion in this proposal to authorize the annual average military training student load.

Applicable statements related to environmental impact are also being provided as required by section 102(2) (c) of Public Law 91-190.

Sincerely,

J. FRED BUZHARDT.

A BILL To authorize appropriations during the fiscal year 1974 for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons, and research, development, test and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—PROCUREMENT

SEC. 101. Funds are hereby authorized to be appropriated during the fiscal year 1974 for the use of the Armed Forces of the United States for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons as authorized by law, in amounts as follows:

AIRCRAFT

For aircraft: for the Army, \$181,000,000; for the Navy and Marine Corps, \$2,958,300,000; for the Air Force, \$2,912,000,000.

MISSILES

For missiles: for the Army, \$599,900,000; for the Navy, \$680,200,000; for the Marine Corps, \$32,300,000; for the Air Force, \$1,573,200,000.

NAVAL VESSELS

For naval vessels: for the Navy, \$3,901,800,000.

TRACKED COMBAT VEHICLES

For tracked combat vehicles: for the Army, \$201,700,000; for the Marine Corps, \$46,200,000.

TORPEDOES

For torpedoes and related support equipment: for the Navy, \$219,900,000.

OTHER WEAPONS

For other weapons: for the Army, \$51,300,000; for the Navy, \$11,900,000; for the Marine Corps, \$700,000.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

SEC. 201. Funds are hereby authorized to be appropriated during the fiscal year 1974 for the use of the Armed Forces of the United States for research, development, test, and evaluation, as authorized by law, in amounts as follows:

For the Army, \$2,108,700,000;

For the Navy (including the Marine Corps), \$2,711,700,000;

For the Air Force, \$3,212,500,000; and

For the Defense Agencies, \$525,000,000, of which \$24,600,000 is authorized for the activities of the Director of Test and Evaluation, Defense.

TITLE III—ACTIVE FORCES

SEC. 301. For the fiscal year beginning July 1, 1973, and ending June 30, 1974, each component of the Armed Forces is authorized an end strength for active duty personnel as follows:

- (1) The Army, 803,806;
- (2) The Navy, 566,320;
- (3) The Marine Corps, 196,419;
- (4) The Air Force, 666,357.

except that the ceiling for any armed force shall not include members of the Ready Reserve of such armed force ordered to active duty under the provisions of section 673 of title 10, United States Code, members of the Army National Guard or members of the Air National Guard called into Federal service under section 3500 or 8500, as the case may be, of title 10, United States Code, or members of the militia of any State called into Federal service under chapter 15 of title 10, United States Code. Whenever one or more units of the Ready Reserve are ordered to active duty after the date of enactment of this section, the President shall, on the first day of the second fiscal year quarter immediately following the quarter in which the first unit or units are ordered to active duty and on the first day of each succeeding six-month period thereafter, so long as any such unit is retained on active duty, submit a report to the Congress regarding the necessity for such unit or units being ordered to active duty. The President shall include in each such report a statement of the mission of each such unit ordered to active duty, an evaluation of such unit's performance of that mission, where each such unit is being deployed at the time of the report, and such other information regarding each such unit as the President deems appropriate.

TITLE IV—RESERVE FORCES

SEC. 401. For the fiscal year beginning July 1, 1973, and ending June 30, 1974, the Selected Reserve of each Reserve component of the Armed Forces will be programmed to attain an average strength of not less than the following:

- (1) The Army National Guard of the United States, 379,144;
- (2) The Army Reserve, 232,591;
- (3) The Naval Reserve, 116,981;
- (4) The Marine Corps Reserve, 39,735;
- (5) The Air National Guard of the United States, 92,291;
- (6) The Air Force Reserve, 49,773;
- (7) The Coast Guard Reserve, 11,300.

SEC. 402. The average strength prescribed by section 401 of this title for the Selected Reserve of any reserve component shall be proportionately reduced by (1) the total authorized strength of units organized to serve as units of the Selected Reserve of such component which are on active duty (other than for training) at any time during the fiscal year, and (2) the total number of individual members not in units organized to serve as units of the Selected Reserve of such component who are on active duty (other than for training or for unsatisfactory participation in training) without their consent at any time during the fiscal year. Whenever such units or such individual

members are released from active duty during any fiscal year, the average strength for such fiscal year for the Selected Reserve of such reserve component shall be proportionately increased by the total authorized strength of such units and by the total number of such individual members.

TITLE V—GENERAL PROVISIONS

SEC. 501. Subsection (a) (1) of section 401 of Public Law 89-367 approved March 15, 1966, (80 Stat. 37), as amended, is hereby amended to read as follows:

"(a) (1) Not to exceed \$2,100,000,000 of the funds authorized for appropriation for the use of the Armed Forces of the United States under this or any other Act are authorized to be made available for their stated purposes to support: (A) Vietnamese and other free world forces in support of Vietnamese forces, (B) local forces in Laos; and for related costs, during the fiscal year 1974 on such terms and conditions as the Secretary of Defense may determine. None of the funds appropriated to or for the use of the Armed Forces of the United States may be used for the purpose of paying any overseas allowance, per diem allowance, or any other addition to the regular base pay of any person serving with the free world forces in South Vietnam if the amount of such payment would be greater than the amount of special pay authorized to be paid, for an equivalent period of service, to members of the Armed Forces of the United States (under section 310 of title 37, United States Code) serving in Vietnam or in any other hostile fire area, except for continuation of payments of such additions to regular base pay provided in agreements executed prior to July 1, 1970. Nothing in clause (A) of the first sentence of this paragraph shall be construed as authorizing the use of any such funds to support Vietnamese or other free world forces in actions designed to provide military support and assistance to the Government of Cambodia or Laos; *Provided*, That nothing contained in this section shall be construed to prohibit support of actions required to insure the safe and orderly withdrawal or disengagement of U.S. Forces from Southeast Asia, or to aid in the release of Americans held as prisoners of war."

This Act may be cited as the "Department of Defense Appropriation Authorization Act, 1974".

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE,

Washington, D.C., February 28, 1973.

HON. F. EDWARD HEBERT,
*Chairman, Committee on Armed Services,
House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: Reference is made to my letter of January 29, 1973 which forwarded proposed legislation "To authorize appropriations during the fiscal year 1974 for procurement of aircraft, missiles, naval vessels, trucked combat vehicles, torpedoes, and other weapons, and research, development, test and evaluation for the Armed Forces, and to prescribe the authorized personnel strength for each active duty component and of the Selected Reserve of each Reserve component of the Armed Forces, and for other purposes."

As indicated in my letter, the proposed legislation did not include the necessary provision to meet the requirements of section 604 of Public Law 92-436. That section amended section 412 of Public Law 86-149 by adding subsection (e) which (1) requires authorization each fiscal year beginning with FY 1974 of the average military training student load for each component of the Armed Forces, and (2) requires an annual written report to Congress beginning March 1, 1973, recommending the average student load for each category of training for each component of the Armed Forces for the next three fiscal years.

The data necessary to comply with these requirements has now been compiled and the required report is being submitted to the Congress under separate cover. Attached is a draft of a new Title V, for inclusion in the draft legislation forwarded with my letter of January 29, 1973, which would provide the necessary authorization for the average student load for each component of the Armed Forces as required by section 412(e).

Student loads are authorized for each component only for that component's personnel since a component cannot shift the training loads for personnel from other components. Thus, for example, Navy personnel undergoing training conducted by the Air Force are included in the Navy's authorization, not that of the Air Force since these personnel are being trained to fill a Navy requirement.

Sincerely,

J. FRED BUZHARDT.

TITLE A—MILITARY TRAINING STUDENT LOADS

SEC. 501. For the fiscal year beginning July 1, 1973, and ending June 30, 1974, each component of the Armed Forces, is authorized an average military training student load as follows:

- (1) The Army, 89,200;
- (2) The Navy, 75,800;
- (3) The Marine Corps, 28,000;
- (4) The Air Force, 55,100;
- (5) The Army National Guard of the United States, 19,100;
- (6) The Army Reserve, 59,900;
- (7) The Naval Reserve, 15,200;
- (8) The Marine Corps Reserve, 5,600;
- (9) The Air National Guard of the United States, 4,600;
- (10) The Air Force Reserve, 24,300.

THE SECRETARY OF DEFENSE,
Washington, D.C., June 15, 1973.

HON. F. EDWARD HÉBERT,
*Chairman, Committee on Armed Services,
House of Representatives.*

DEAR MR. CHAIRMAN: After a detailed study of requirements for modernization of Navy/Marine Corps fighter aircraft, the Department of Defense has concluded that it is essential to proceed with the development of alternatives to the procurement of additional quantities of F-14A aircraft beyond a total program of about 313. Accordingly, the Department of the Navy, subject to the approval of the Congress, has been directed to take the necessary action to initiate in

July 1973, a prototype program to develop versions of the F-14 and F-15 as alternatives for the Navy/Marine Corps fighter modernization program. The program will include definition of prototype configuration, construction of two aircraft of each type, and a comprehensive flight test evaluation. Initial flight of the prototypes is planned to be no later than December 1975 and a decision is scheduled for July 1976.

It is estimated that this prototype program will cost approximately \$150 million in FY 1974. This funding will be provided from within the amounts currently requested for authorization and appropriation under Research, Development, Test and Evaluation. Your Committee will be provided the necessary program line item changes reflecting adjustments necessary to provide the \$150 million for the F-14/F-15 prototypes not later than June 20, 1973.

Your approval is requested to proceed with the initiation of this prototype program in July 1973 utilizing the authority of the Continuing Resolution.

With best regards.

Sincerely,

BILL CLEMENTS, *Deputy.*

DISSENTING AND ADDITIONAL VIEWS OF HON. ROBERT
L. LEGGETT (D-CAL.), HON. RONALD V. DELLUMS AND
HON. PATRICIA SCHROEDER

With a one vote exception, H.R. 6722 received an aye vote from every member of the Committee. Basically everyone is for motherhood, prosecution of the Watergate burglars and National Defense. There are degrees of enthusiasm between reasonable people on all these issues, which is the reason, at least on the defense issue, why we hold civilian oversight hearings on Pentagon actions.

I. PENTAGON MAKES MISTAKES

If the Pentagon could do no wrong, the Armed Services Committee would be without a function. By amendments adding and reducing programs approved by the full Committee, the posture of the Department of Defense from the civilian view of our Committee will be enhanced.

Some members of the House Armed Services Committee believe that well within a spirit of true patriotism that additional reductions might be made.

Evidence of the fallibility of the Pentagon has been shown most recently on the following items:

(1) *SCAD*.—The Air Force after spending hundreds of millions of dollars on the development of a subsonic decoy system for about 100 B-52's at a cost of \$11 million-plus each (Greater than the price of the original airplane) under prodding from Congressional Committees, totally aborted the program.

(2) The *F-14A Tomcat Navy fighter*.—A program was conceived by the Office of the Secretary of Defense to spend \$150 million over a two year period to convert two F-14B's, two F-4E's and two F-15's and to have a two year air superiority fly off. When it appeared that the cost estimate was nearly 200 percent shy of the true projected cost, again under prodding of Congressional Committees the fly off was withdrawn.

Our Committee, however, simultaneously approved a buy of 50 F-14A Tomcat Phoenix capable planes in this bill at a fly-away unit cost of \$14.1 million compared to a Grumman contract option price of \$11.9 million—a \$2.2 million increase in unit prices over original Pentagon plans.

There is no purpose in further itemizations—the Pentagon, perhaps the best Defense institution in the world is fallible sometimes.

II. ARE THERE ECONOMIC REASONS FOR REDUCTION OF THE DEFENSE BUDGET?

The answer to this question is clearly yes.

Defense expenditures programmed by the Pentagon over the past eight years were recently reported by the Joint Economic Committee as follows:

JOINT ECONOMIC COMMITTEE
NATIONAL SECURITY BUDGET
(in millions of dollars)

	Outlays (fiscal years)								Budget authority 1974 estimate
	1965	1968	1969	1970	1971	1972	1973 estimate	1974 estimate	
Defense, military assistance and defense related activities:									
DOD military.....	45,173	77,973	77,877	77,150	74,546	75,151	74,200	78,200	83,481
Military assistance.....	2,469	1,237	1,355	1,186	2,045	1,806	1,648	1,959	3,438
Atomic Energy.....	2,625	2,465	2,450	2,453	2,275	2,392	2,194	2,374	2,439
Space Research and Technology.....	5,093	4,721	4,247	3,749	3,381	3,422	3,061	3,135	3,015
U.S. Arms Control and Disarmament Agency.....	7	11	1	11	10	9	10	8	7
Renegotiation Board.....	3	3	3	4	5	5	5	5	5
National Security Council.....	1	1	1	1	2	2	3	3	2
Stockpiles.....	16	19	18	15	23	17	17	18	18
Expansion of defense production.....	60	51	166	-15	-188	-12	66	-8	-
Selective Service.....	43	57	65	75	81	75	92	55	55
Emergency Preparedness.....	17	12	11	4	13	7	7	8	9
Deductions for offsetting receipts.....	-124	-115	-133	-118	-89	-108	-751	-382	-382
Subtotal.....	56,383	85,835	86,065	84,515	82,104	82,766	80,552	85,375	91,677

With American exchange worth 40 percent less in German marks than it was two years ago, with gold escalating from \$35 per ounce when President Nixon took office to \$122 per ounce on the foreign markets last week, with the United States expending 71½ percent of GNP for Defense as compared to 4¾ percent for West Germany, 2.5 percent for Canada, 4 percent for France, 3.1 percent for Italy, 5.8 percent for the United Kingdom, and with the United States spending 56 percent of all Defense dollars for salaries vs. 24 percent for the Soviet Union, a revaluation of American posture vis a vis the rest of the world is at least justified.

The National Debt now at \$465 billion was measurably enhanced over the past four years as follows as reported in the January budget:

	(Billion)
1971 -----	\$29.9
1972 -----	29.1
1973 -----	34.0
1974 -----	27.0
Total -----	¹ 120.0

¹ Projected new income over the 1973-74 fiscal years could reduce these projected debt additions by \$16 billion as recently reported by the OMB.

A tidy increase in debt for a theoretical depostured peacetime economy.

III. COMMITTEE REDUCTIONS

The bill as reported in the amount of \$21.394 billion has been reduced by the Committee wisely \$625 million. Over half of the reduction, \$330.9 million, was in the F-15 Eagle (Air Force Fighter) account and much of the balance of the reductions were either suggested or concurred in by the Department of Defense, to wit, \$149.9 billion for ballistic missile conversions suggested by Secretary Clements, \$36.4 million Navy RDT&E suggested by Mr. Clements, and \$50 million as a result of DOD termination of the SCAD Program.

This results then in net reductions made by the Committee and not requested or approved by DOD in addition to the F-15 of \$57.8 million totalling ¼ of 1 percent.

Frankly, some think that we can do better and, therefore, if the House of Representatives is in any mood to change priorities, we would suggest the following items be given a good close look. Suggested amendments will be offered.

IV. SUGGESTED AMENDMENTS

A. Trident Submarine and Missile System-----	\$885 million
B. L.H.A. (Landing Heavy Assault Ship)-----	192 million
C. Safeguard ABM (Sprint and Spartan)-----	175 million
Site defense ABM (Sprint)-----	75 million
E. Vietnam military assistance-----	800 million
F. SAM D (Defense of Europe—new missile)-----	100 million
Total reductions-----	2.227 billion

A. TRIDENT SUBMARINE—\$885 MILLION

Why take \$885 million out of the Navy Submarine Program—
Won't that kill the U.S. Submarine Program? Answer: not at all—

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we spend lots of money for submarines. In this bill we have \$908.2 million, less \$125 million advance procurement, plus \$130 million long lead time money for the five SSN (688 class quiet) attack submarines, plus several hundred million additional for conversion of five Polaris Submarines to Poseidon.

The total new eight-year \$13 billion Trident Submarine Program is an entirely new concept this year of ten (24 tube) submarines, each over 500 feet long and 40 feet in diameter.

Restated, the program involves constructing ten new submarines, and each one is nearly 30 percent more expensive than our most expensive aircraft carrier the CVAN 70 later discussed.

The program primarily is to give the United States a submarine ICBM capability in the Indian Ocean and South Pacific and requires the building of an entire new ship tending facility at Bangor, Washington.

The chart for the program's funding over the next several years looks something like the following:

	<i>Billion</i>
1974 -----	\$2.1
1975 -----	2.5
1976 -----	3.1
1977 -----	3
1978 -----	2.8

Most of the preceding figures exclude operation and maintenance and Atomic Energy expenditures which are contained in the Public Works Budget.

The DOD figures for the fiscal year 1974 Trident Program are as follows:

<i>(Millions of dollars)</i>	
Research, development and technology:	
Trident I and II Missile (—\$81) -----	\$531.6
Trident Submarine (—\$21.6) -----	126
Trident A.E.C. (P.W. budget) -----	104
Subtotal (—\$52.6) -----	761.6
Construction:	
Bangor, Washington Base (military construction budget) -----	181.8
Procurement:	
Trident Submarine fiscal year 1973 carryover -----	194
Trident Submarine fiscal year 1974 new lead-ship funds (—\$546.8) ---	586.8
Trident Submarine fiscal year 1974 long lead item 2d through 7th sub (—\$281) -----	231
Trident I Missile (—\$5) -----	5
Trident I additional engine and test -----	26.4
Operation and maintenance -----	5.7
Subtotal (—\$832.8) -----	1098.9
Fiscal year 1974 total program (—\$885.4) -----	2042.3

To this program, amendments were offered in Committee totalling over \$1 billion, considering that there was a program escalation of nearly \$1.2 billion over the funds authorized last year.

Rather than restate the Committee amendments that were rejected, and to simplify the numbers and to conform to action taking place in the other body, having a common purpose to slow down but not to kill the Trident Program, an amendment will be offered to strike \$885.4 million from the program. (An itemization of the reduction is contained in parentheses in the preceding chart.)

The reasons for slowing down Trident can be briefly justified as follows:

1. SALT I JUST DOESN'T ALLOW FOR THE CONSTRUCTION OF TEN NEW 24 TUBE (240 TUBE TOTAL) SUBMARINES

On May 30, 1972, President Nixon stated:

The SALT agreements, "are a concrete expression of the intention of the two sides to contribute to the relaxation of international tension and the strengthening of confidence between states . . ."

On June 21, 1973, the United States and the Soviet Union signed a set of principles of negotiations on the further limitation of strategic offensive arms. Those principles stated that:

"Both sides will be guided by the recognition that efforts to obtain unilateral advantage, directly or indirectly, would be inconsistent with the strengthening of peaceful relations between the United States and the U.S.S.R."

The May 29, 1972 interim SALT agreement allows the United States 710 tubes at sea. We now have 656 in the 41 Polaris submarines already deployed.

We can transfer 54 Titan heavy megatonage ICBMs to our sea arsenal to fill out the 710 sea tubes pursuant to the agreement.

However, Secretary of Defense Richardson stated this year that the Pentagon has no plans to take these 54 Titan heavy megatonage weapons out of commission.

Additionally, Admiral Hyman Rickover has stated that only eight of the Polaris fleet are non first line weapon systems—thus we only have 128 tubes available for conversion from Polaris to Poseidon unless we want to fritter our money away or build pressures to change the SALT Agreement.

At page 378 of the Senate Armed Services Committee hearings this year, Admiral Moorer stated as much as follows:

. . . Then you would have to accommodate, according to the present agreement, by withdrawing a suitable number of current Polaris and Poseidon; and in an agreement obtained subsequent to the deployment of the Trident, you would have to accommodate the Trident.

Admiral Moorer was under the impression that the Soviets were not amenable to *qualitative* limitations when he answered a Senate question as follows at page 397.

*Admiral Moorer. As you know, the provisions of SALT I were primarily **quantitative** in nature and did not bring into play any major **qualitative** restraints, particularly in the Interim Agreement. [Deleted.]*

So this present report, I think, is simply some comment picked up on the side, and is not representative of the official Soviet position [deleted].

Since the Senate hearings the United States and the Soviet Union have changed course. Nixon and Brezhnev have agreed, under date of June 21, 1973, to execute a *qualitative* and *quantitative* limitation agreement by next year in part as follows:

Over the course of the next year the two sides will make serious efforts to work out the provisions of the permanent agreement on more complete measures on the limitation of strategic offensive arms with the objective of signing it in 1974.

*Second. New agreements on the limitation of strategic offensive armaments will be based on the principles of the American-Soviet documents adopted in Moscow in May 1972 and the agreements reached in Washington in June 1973; and in particular, both sides will be guided by the recognition of each other's equal security interests and by the recognition that **efforts to obtain unilateral advantage, directly or indirectly**, would be inconsistent with the strengthening of peaceful relations between the United States of America and the Union of Soviet Socialist Republics.*

*Third. **The limitations placed on strategic offensive weapons can apply both to their quantitative aspects as well as to their qualitative improvement.***

To spend, then, \$2.1 billion for a Trident SALT bargaining chip is a little expensive.

If DOD insists on keeping the 54 Titans in our strategic missile force, the Navy would have to deactivate at least 6 of the Poseidon submarines recently converted as well as 10 of the older Polaris submarines, two of the latter being first line weapons.

In view of the uncertainties existing in this program and in view of the increased funds requested in this fiscal year, I believe that the program should be continued at a more orderly and cautious pace.

2. CONCURRING AND ACCELERATED DEVELOPMENT HAS LEAD TO PROBLEMS OF PROCUREMENT IN THE PAST

Comptroller General Elmer Staats in recent testimony before the House Armed Services Committee has stated that the major reason for cost overruns on procurement is *concurrent research and development and rapid acceleration*. This is exactly the mistake we make with Trident.

The decision to accelerate Trident development was made when the Navy was only half through with the Poseidon Program—the reason for the acceleration was the Soviet ABM and first strike thrust—these reasons are today not viable.

We are developing the Trident Submarine to be outfitted with a Trident I, 4,000 mile missile while we are also perfecting a Trident II, 6,000 mile missile. This is reminiscent of the 50's when we developed eight A-1 Polaris in three years only to convert them shortly thereafter to A-3 and now today all are block obsolete it is claimed, at one time. Since each of the Polaris submarines involved nearly 10,000 separate change orders for each ship, would it not be wise to slow down this procurement into a reasonable time frame, get the panic out, avoid block obsolescence of the Trident fleet in the future, and needless rapid conversion.

As a completely new program, the Trident submarine would appear to be particularly prone to the cost overrun pressures described by the General Accounting Office in their recent study entitled, *Cost Growth in Major Weapons Systems*. This study reported that,

Most resources are invested in systems to replace systems that perform the same types of missions. The successive generation of systems which follow this pattern push state of the art frontiers and, of course, costs increase with each increment of improvement. This technological momentum can be expected to drive cost up no matter how well the programs are managed.

In light of the fact that the Trident program involves a new hull structure, a new propulsion plant, and a new missile system, its susceptibility to cost overruns is particularly acute. The acceleration of the program by two years will only multiply the possibility of waste.

3. THERE IS NO REAL HURRY TO OUTGAIN THE SOVIETS

Admiral Zumwalt in February 1972 stated :

Our present Polaris/Poseidon system is excellent now and is highly capable for the near future against threats that we anticipate that the USSR is likely to develop.

Admiral Rickover has stated in February 1972 :

While we know of no definite threat to our existing Polaris/Poseidon submarines, the Soviets have made great strides in naval capability which may in the future pose a threat to these submarines.

The following chart shows a strength comparison last year.

U.S.-U.S.S.R. LONG-RANGE BALLISTIC MISSILE SUBMARINES IN MID-1972

	U.S. Polaris/Poseidon	U.S.S.R. Yankee
Submarines.....	41.....	25.
Nuclear power.....	Yes.....	Yes.
Missiles per sub.....	16.....	16.
Range of missiles (nautical miles).....	2,500 (33 subs); 1,500 (8 subs).....	1,300-1,500 (a 3,000-mile missile has been tested but not put in a submarine).
Number of missiles with MRV (3 weapons in cluster on single target).....	336.....	None.
Number of missiles with MIRV (10-14 weapons on separate targets).....	496.....	Do.
Number of weapons in force.....	3,800.....	480.
Advance operating bases and subs assigned.....	Scotland 9, Spain 9, Guam 7.....	None.
Operating areas and number of submarines on station (estimate),.....	Mediterranean, 2; Atlantic, 4; Northern areas, 6; Pacific, 3; Indian Ocean, 1.	Atlantic, 3-4; Pacific, 0-1.
Total on station.....	16.....	3-5.

Note: The U.S. Polaris/Poseidon force has 8 times the number of weapons that the Y-class has—most with nearly twice the range of the Y-class missiles. Advance operating bases allow the United States to have 16 Polaris on station; the Russians have 3-5 submarines on station. The United States has both MIRV and MRV. The Soviets do not.

In 1976 when the conversion of 31 Polaris submarines to accommodate the Poseidon missile is completed, the United States SLBM independently targetable warhead force will be 5,120, each with a

range of 2,500 miles. The Poseidon missile, installed in the 31 Lafayette class submarines, and the Polaris A-3 missile, installed in the ten older nuclear submarines, will be capable of hitting any target in the world. Any one of the 31 Poseidon missile submarines could deliver more destructive power than all explosives dropped on Germany and Japan in World War II, and each individual Poseidon missile is considerably larger than the bomb dropped in Hiroshima. Moreover, the U.S. SLBM fleet contains only a small fraction of the total megatonnage in the U.S. arsenal.

Therefore, it is not plausible that the USSR will be able to develop a pre-emptive strike capability. With the SALT I agreements limiting ABM systems, there is no danger that the land based ICBM force could be wiped out by a pre-emptive strike, since neither nation has the capability to protect itself from a second strike. Furthermore, it is estimated that by 1976 the U.S. arsenal will contain over 10,000 strategic nuclear warheads. In view of the overwhelming second-strike capability inherent in this massive arsenal it is clear that an accelerated Trident program is not needed at this time.

4. THE CURRENT POLARIS/POSEIDON FLEET IS NEW, AND WILL NOT NEED REPLACEMENTS UNTIL THE MID 1980's

The prime argument for moving the Initial Operational Capability (IOC) of the Trident from 1981-1979 is that our current fleet is old and tired, and needs to be replaced. By the Pentagon's own admission, however, Polaris submarines have an estimated life span of 20-30 years. In 1981, the original I.O.C. date for the lead Trident submarine, only six submarines in the fleet will be older than 20 years. More importantly, these six ships will carry only 96 independently targetable warheads out of a total SLBM warhead force of 5,120.

B. LHA—LANDING HEAVY ASSAULT SHIP—\$192 MILLION

The LHA amphibious assault ship is one of the worst disasters in the history of American military procurement.

Delivery schedules have slipped on the average by two full years.

Whereas the original 1968 contract called for nine ships built with 36.8 million man-hours at a total cost of \$1.4 billion, the Navy due to cost overruns and delay, has opted to build only 5 ships with 56 million man-hours at a total cost of approximately \$970 million plus unknown additional dollars pending in a *Litton v. United States* law suit.

That was only part of the bad news for Litton. The Navy simultaneously announced last year that within 90 days Litton must pay back \$55 million in previous advance payments, money to which the Navy felt Litton was not entitled because of serious schedule slippage.

Litton's first action was to file with the U.S. District Court for Southern Mississippi for a temporary restraining order to prevent the Navy from collecting the \$55 million. They have since received an indefinite extension and weathered a Navy attempt to have the case removed from the court's jurisdiction. Litton has also filed an appeal with the Armed Services Board of Contract Appeals concerning the \$108 million difference and is awaiting action.

In March of this year—the month the first ship was originally due for delivery—the General Accounting Office had to report that “the construction of the ship programs is at such an early stage that a clear judgment of achievement of cost and schedule goals is not possible.”

Peter J. Ognibene restates the problem in May '73 Harpers as follows:

In its successful bid for the LHA contract, Litton estimated that 36.8 million labor-hours would be required to develop and build nine LHAs: about 4.1 million hours per ship. In its reset proposal, Litton raised its estimate to 55.8 million labor-hours for five LHAs: about 11.2 million hours per ship. In other words, Litton's labor estimate for each ship nearly tripled. Of the 55.8 million hours, 42 million were for actual production of the ships. When the hearings were held a year ago, less than 2 percent of the 42 million production-line labor-hours had been expended. By year's end, however, the company had collected about \$400 million of the \$970 million contract.

Admiral Gooding told the House Armed Services Committee in April 1972 that Litton's west bank shipyard was “several hundred men short” and that the prospects for improvement were bleak. “The projection is that even with their current hiring rate, they will be 2,000 men short by the end of the calendar year,” he said. Asked about Litton's labor turnover rate, Gooding said it was inordinately high, “about 50 percent.”

“In other words,” Chairman F. Edward Hébert asked, “if the program is continued and the contract (i.e. the reset proposal) is awarded, they don't have the manpower to carry it out if they don't show an improvement?”

“That is correct, sir,” Gooding replied.

The disaster can be attributed to one cause only: mismanagement. Litton's shipbuilding division has gone through three presidents and six LHA program managers in an attempt to establish a successful team.

No civilian purchaser would tolerate this level of incompetence; there is no reason why the United States Government should tolerate it.

The unit cost for the 5 LHAs has increased nearly 100% since the original contract—an increase from \$130 million to over \$200 million per ship. The Navy has been requested to provide a complete analysis of this program explaining why the House Armed Services Committee, after authorizing over \$800 million for these ships, while the ships are two years late and only a few percent completed, while multi-million dollar claims are pending in the courts should stampede ahead. It is not apparent to many of us on the committee how the Congress can exercise effective oversight over the Navy and this program by prematurely approving the last \$192 million at this time. Restated: *The 5 LHA ships are not now scheduled to be completed until 1976 or 1978 so why must the Congress abdicate its function and approve this program 3 to 5 years ahead of time.*

C. SAFEGUARD AND SITE DEFENSE ABM—
\$250 MILLION

This bill contains authorization for two specific anti-ballistic missile systems: Safeguard (\$376.5M) and Site Defense (\$145.1M). The total programs before Committee reductions look something like this:

	Expended fiscal year 1968-72	Fiscal year 1973 approved	Fiscal year 1974 request
Safeguard:			
R.D.T. & E.	1815.4	239.7	216.5
PROC.	2118.2	300.0	185.0
MCA.	646.8	0	0
Total	4580.4	539.7	401.5
	Approved fiscal year 1971-72	Fiscal year 1973 approved	Fiscal year 1974 request
Site defense:			
R.D.T. & E.	84.7	80.1	170.1
MCA.		20.4	0

SAFEGUARD

The technological inadequacy has been discussed in detail on the floors of both Houses of Congress and in separate views accompanying previous procurement authorization bills. These criticisms were never rebutted by the Department of Defense. In fact, this year the Pentagon has dropped all pretense that the cost of Safeguard can be justified by the number of Minuteman ICBMs it could save from Soviet attack. Today the Pentagon rightly refers to Safeguard as "*the Model T of the ABM world*".

We are told it was necessary to spend \$5 billion on Safeguard since 1969 so we could bargain it away at the *Strategic Arms Limitation Talks*. Why the *threat* to build an ABM would not have been an equally effective bargaining chip at far lower cost is not clear. What is clear, however, is that

(1) The construction of the Grand Forks Safeguard site, together with the equally senseless Galosh system the Soviets have emplaced around Moscow, prevented the SALT talks from achieving a "no ABMs" treaty, and

(2) by spending \$5 billion on Safeguard we seem to have created a commitment to complete the system on the grounds that "*we might as well get something for the money we've sunk.*" Yet even if we ignore all previous Safeguard expenditures, the military effectiveness of Safeguard does not begin to justify the \$2 billion it will cost to complete the single complex at Grand Forks and to operate it for ten years.

The Pentagon rationale for completion of the Grand Forks Safeguard site—that it would give us operational experience with an ABM system—is of little validity since

(1) For safety reasons, tests against real ICBMs cannot be performed at Grand Forks (or anywhere in continental U.S.), whereas

they can be performed at the already completed and operating Kwajalein test site in the Pacific, and

(2) *Safeguard* has so little in common with *Site Defense* or any modern ABM system that experience gained with it is of little use.

The Armed Services Committee is to be commended for reducing the *Safeguard* request \$25 million. However, *any* expenditure on *Safeguard* is simply so much money down the drain. It should be reduced to the greatest extent possible and I am therefore suggesting a cut of \$175 million leaving \$176.5 million in this year's program.

SITE DEFENSE

Site Defense is a modern ABM system that may possibly be effective and cost-effective. It differs from *Safeguard* in many major aspects: It has no long-range, area defense components, but is dedicated exclusively to point defense; instead of a single, expensive, vulnerable radar, each Site Defense complex eliminates *Safeguard*'s worst Achilles heel by using a "net" of several smaller, cheaper, more blast-resistant radars; a standard commercial data-processor is used instead of *Safeguard*'s more expensive custom unit; operation and maintenance costs are reduced by increased automation. (Those who have followed the ABM debate through the years will note that most of these changes have been long advocated by the critics of *Safeguard*.)

But to say that Site Defense is an intelligently designed system is not to say that it can contribute to national security.

For one thing, SD requires more than 500 missiles to perform a deterrent function, and the SALT treaty limits us to 200, of which 100 apparently are committed to *Safeguard*.

In order for Site Defense to become necessary for an effective U.S. nuclear deterrent, *all* of the following would have to occur:

(1) *Failure of Salt II to limit offensive strength to a level at which each side is incapable of destroying the other's hardened silos.*

(2) *Catastrophic degeneration of U.S.-Soviet relations to the point that the ABM limitation treaty is abrogated.*

(3) *Development and deployment of an unforeseen and presently inconceivable Soviet breakthrough in anti-submarine technology that would threaten not only our present Polaris/Poseidon deterrent but also the various longer-range SLBM options.*

(4) *Development and deployment of a Soviet MIRV with sufficient accuracy and quantity to threaten to destroy our ICBM force while still retaining sufficient power to destroy U.S. society.*

(5) *Development and deployment of a Soviet anti-aircraft system capable of very high effectiveness against a heavy low-altitude attack using SRAM, SCAD and whatever more advanced penetration aids we develop over the next decade.*

The low probability of all this coming about, and the gravity of the nation's economic predicament, mandate that this "nice to have" but not essential program be reduced. It would not be eliminated; there are valid reasons for maintaining an ABM research program. But it should be placed on the back burner with an authorization approximating last year's \$80 million. The program can always be accelerated,

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should unfortunate political and technological developments warrant it.

The committee has wisely dropped \$25 million from this program—an additional \$75 million reduction would bring the program back to last year's level.

In summary: how can we stampede ahead on a new Sprint ABM program that is blocked by the SALT agreement?

The House Armed Services Appropriation Subcommittee commented on this program last year as follows:

The Committee was also concerned as to the total cost of this program. The estimated total development cost of the program, as presented in the January budget, was from \$700 to \$800 million. As presented in support of the June 30th budget amendment, the development cost was estimated to be 100 percent more. It was further estimated that the cost of defending one Minuteman wing with this system will be from \$1.6 to \$2.4 billion, including only procurement and construction costs. There would be additional personnel and operation maintenance costs over and above this amount.

It is not clear, considering the present treaty limiting the deployment of ABM systems, as to just where and how the proposed new system would be deployed. Until these matters are more clear, the Committee believes a more reasonable pace of development is appropriate.

D. SAM-D—NEW MISSILE—\$100 MILLION

SAM-D is an advanced anti-aircraft system using long-range, high-altitude missiles, a phased-array radar, and elaborate electronic counter-counter measure capability. It is claimed to offer improved performance, higher reliability, and lower operation and maintenance costs than the Nike-Hercules and Improved Hawk systems it would replace. At this point, there appears no reason to doubt these claims. But the fact is this system is quite expensive—research and development will cost more than \$1.2 billion, of which approximately half has already been spent, and production will cost at least another \$4 billion—and there is a real question whether the need justifies the cost.

Two missions are claimed for SAM-D:

1. *Defense of the entire U.S. against a light bomber attack, with heavier defense of Washington, D.C.*

The futility of this mission is evident when we consider that (A) No potentially hostile nation has a significant strategic bomber force either in being or in production; (B) The Soviet Union is the only potentially hostile nation with the capability of building such a force, although it shows no signs of doing so; (C) The Soviet Union already has strategic missile capability—sufficient to destroy the United States many times over; (D) Both by technological reality and by the Strategic Arms Limitation Treaty, we and the Soviet Union have accepted a position of mutual vulnerability to each other's missiles.

Since we cannot defend against the massive Soviet missile force, it would be the height of financial irresponsibility to attempt to defend against the minimal Soviet bomber force.

II. Defense of U.S. Troops in Europe

This mission, as is our entire presence in Europe, is primarily for the benefit of our allies, and only indirectly for the American national interest. *When we also consider our desperate economic posture, our negative trade balance, and the fact that our NATO allies spend a smaller proportion of their gross national product on defense than we do, it is apparent that the bulk of the cost of SAM-D should be borne by them.*

Three tactical questions are raised by the SAM-D NATO mission:

First.—The primary Soviet aircraft thrust is in the form of large numbers of cheap, high performance, relatively, simple aircraft which would probably penetrate at low altitude. Thus they would be more effectively and more cheaply countered by simpler low-altitude missiles such as the European Crotale, Rapier or Roland II.

Second.—If our NATO allies do not purchase SAM-D, and if the Soviet offense becomes sufficiently sophisticated to penetrate earlier medium and high altitude systems, it will accomplish little to deploy SAM-D protection over our own forces if the Soviets can simply chart their courses to penetrate through our allies' weaker defenses.

Third.—The medium and high altitudes covered by SAM-D will also be covered by some combination of F-15, F-14 and light-weight fighter. These systems are costing us a great deal of money, and they are incompatible with SAM-D. We will not be using anti-aircraft missiles and friendly interceptors in the same airspace at the same time. It is, therefore, possible that SAM-D cannot justify its cost under any circumstances.

Therefore, I recommend the following:

First.—SAM-D development should be slowed by reducing the FY '74 authorization \$100 million. We do not need this system that quickly.

Second.—Plans for U.S. deployment of SAM-D should be abandoned.

Third.—*We should not consider production of SAM-D unless we have a firm commitment from our allies that they will absorb at least 75% of the total program cost.*

E. VIETNAM—LAOS—\$800 MILLION

Would you believe that we authorize the entire Military Assistance Program for Vietnam and Laos in one obscure paragraph of Title VI Sec. 601 of the bill. Read this paragraph—if you can understand it—explain it to your friends!

Perhaps the Pentagon doesn't recall that we had a negotiated 'peace with honor' in Vietnam last January 27, 1973 and that the Laotian peace followed by one month.

The reason that the Military Assistance (MAP) Program was consolidated into this bill over 5 years ago was simply that it was too complicated to account for U.S. troop air and water assistance in the two Indo-China countries in two bills, to-wit: the Armed Services Authorization and the Foreign Affairs Authorization bills.

How sloppy the Pentagon can get in this general subject area is evident from the original bill they recommended in a letter sent to the Congress by Chief Counsel, J. Fred Buzhardt, on January 29th last—*two days after the Peace Agreement*. This letter was followed by correspondence dated February 28, 1973 and requested \$2.1 billion in Sec. 601 to carry on the Laos-Vietnam Peace.

The Armed Services Committee revolted and the Pentagon reluctantly took out \$500 million from the bill.

Through the leadership of Colleague William Randall another \$300 million was removed in the full committee such that \$1.3 billion remains to carry out this 'peace' in addition to the \$200 million plus of economic aid in other legislation.

The problem with even the \$1.3 billion figure is that the Pentagon is frank to admit that only \$1.185 billion was pro forma justified to the Committee and the additional \$115 million allowed is just for good measure.

Many paragraphs of Sec. 601 are redundant and inoperative and should be stricken.

Likewise, an \$800 million additional reduction for Vietnam-Laos Military Assistance would allow for \$500 million to carry out the peace, plus \$200 million for economic aid, or a \$700 million dollar program—plenty of money for a 'one for one' replacement program provided for in the Peace Agreement.

To allow large sums of surplus funds for war to be carried out in Vietnam is contrary to the negotiated peace. If the peace doesn't work out, let the Administration come back to the Congress for supplemental funds.

Additionally, contrary to the other Military Assistance Programs in which the United States is engaged, all of the backup figures for the \$1.185 billion allegedly justified are *Secret Classified*. I haven't seen the figures and the Committee has no idea what program is justified in this item.

ROBERT L. LEGGETT.
PATRICIA SCHROEDER.
RONALD V. DELLUMS.

DISSENTING VIEWS OF HONORABLE LES ASPIN
(D-WIS.)

The entire federal government faces a severe budgetary squeeze. There is a need recognized by both the President and Congress to hold federal spending at or below \$268 billion. Each authorization and appropriation bill reported to the House floor must be given the most careful scrutiny and efforts made to reduce all unnecessary spending. In that regard I believe a ceiling should be placed on this year's defense authorization bill.

Specifically, I believe a ceiling consisting of last year's level of appropriations plus 4.5% for inflation should be the overall ceiling placed on the Defense Appropriation Act. Last year, the Congress appropriated a total of \$19,554,838,000 for the items covered by this bill. When an allowance for a 4.5% inflation factor is added, total spending would be \$20,445,255,000. This \$20,445,255,000 is the ceiling which I believe should be placed on this year's budget.

In view of growing fiscal constraints and the total unacceptability of any increase in taxes, the Department of Defense, like other departments of government, should be asked to hold the line on spending.

Obviously, inflation has become a very real fact of life and some inflation factor is a necessary allowance. While 4.5% is lower than overall rate of inflation in the economy, most of the increase in inflation in the total economy is related to the cost of food. Last year both the wholesale and consumer durable goods price indices showed increases of less than 3%. Since the money contained in this bill pays for hardware (either research or procurement), the use of the durable goods index would be fair. On this basis, a 4.5% allowance for inflation is very generous.

Ceiling amendments in the past have been criticized on two counts: first, that they were a meat-ax approach to holding the line on defense spending; and secondly, that if the Pentagon were allowed to make the cuts, Congress would be abdicating its responsibility. The amendment which will be offered on the floor addresses both of these difficulties. It provides that when Congress accepts a ceiling of \$20.445 billion, the Secretary of Defense shall submit to the House and Senate Armed Services Committees a detailed plan setting forth how he proposes to apportion the ceiling figure. The Armed Services Committees must then approve the plan. Hence, there will be no meat-ax approach. Rather, the Secretary of Defense in consultation with the committees on Armed Services, will jointly agree on a plan of apportionment for the ceiling figure. And Congress will have the power of final approval.

In addition to setting a defense budget ceiling coupled with a more than adequate inflation factor, the House should take the necessary steps to cut total of U.S. troops. With the approaching detente, balance of payments deficits, the budgetary squeeze, the monetary crisis and recurring trade deficits, the majority of the American people are

rapidly becoming convinced that our troop levels, particularly overseas, should be reduced. Amendments were offered in committee to cut U.S. troops by as much as 325,000 men. Amendments that will be offered on the floor to cut troops by at least 200,000 men and require that half the cuts come from overseas troop deployment should be supported.

A Senate Armed Services Committee Staff Report of April 13, 1973 estimated the cost of a soldier in FY 1974 will be \$12,448 including pay allowances, family housing, medical programs, and some training costs. As a result, the minimum savings on a 200,000 manpower cut would be \$2.5 billion. The real savings would undoubtedly be higher when cutbacks resulting from procurement, military construction and administration are also included.

The U.S. should maintain the necessary number of troops to achieve our foreign policy objective. At the moment, we are terribly over-extended, with too many troops and too many commitments.

In summary, we are facing a budgetary crunch. The need for reduced federal spending is widely accepted by the American people. Other budgets have been held down or cut back—the Department of Defense budget should be no exception.

LES ASPIN.

ADDITIONAL VIEWS OF HONORABLE
RONALD V. DELLUMS

I strongly feel that one of the great tasks confronting Congress is to cut down on our swollen military presence overseas. We have about 600,000 military personnel stationed all over the world. For the most part, these men contribute neither to our own security nor to the security of the host country. Their presence in such huge numbers represents a squandering of taxpayers' money, and a waste of the men's time. I have offered the following amendment in Committee and shall offer it again during the floor debate on this bill. The amendment is as follows:

Page 4, line 1, strike 791,627; and insert in lieu thereof 681,306; and in
line 2, strike 565,912; and insert in lieu thereof 493,820; and
in
line 3, strike 196,363; and insert in lieu thereof 176,219; and
in
line 4, strike 665,963; and insert in lieu thereof 556,357.

Page 5, after line 2, add the following proviso—Provided that no funds appropriated by Congress may be used after June 30, 1974 for the purpose of maintaining more than 300,000 military personnel assigned or home-ported at overseas bases; or afloat on a regular basis in the Western Pacific or Mediterranean.

This amendment would cut this presence in half—a step which would not decrease but increase the national security which it is our duty to uphold even at the expense of the vested interest of any *organization*, such as the Pentagon.

This amendment will re-assert Congressional control over our overseas military presence. Because for years, Congress has approved these manpower levels without seriously questioning basic rationale for these amendments.

Yet we must be aware that manpower levels requested by DOD were *not* arrived at by Constitutional processes of Congressional control; in fact they represent an abdication of our control—not only to the Executive, but to foreign countries.

The key point here is that there are no specific treaty obligations that force Congress to approve *any level* of troop commitment. Exact figures for each country are the result of *executive* agreements, *and are not submitted to Congress* for approval. Furthermore, such figures are the result of political foreign-policy calculations—and are not based on military matters to which we may legitimately defer to military experts.

This last point is crucial. There is only one factor from which we are forced to rely on assurances of the Pentagon: whether a force level in a certain country is necessary or sufficient to repel the threat that is responsible for its presence overseas. Yet in almost no case is the Pentagon able to give us this assurance.

Either our forces are unnecessary or they are not sufficient. Let me give an example of each. The South Koreans have one of the most battle-hardened armies in the world. It has well over 600,000 people under arms, and many of these have had combat experience in Vietnam, where we all know of their reputation. The North Koreans have an army of less than half a million men who have done nothing beyond border sniping since 1953. We assume the South Koreans will have the advantage of a defensive posture. In other words, if any nation is relatively secure, it is South Korea. Yet we have a top-heavy military establishment there of 38,000 troops which add a mere 7,000 fighting men in the combat division that we station there to provide ground combat support to the South Korean forces—although we must pay for all 38,000 men, when we count support and command troops. If the Nixon Doctrine can be applied anywhere, it is in Korea. Given any sense of logic, there is no justification for the presence of these men, and we should bring them home.

Korea is a case where our troops are not necessary; Central Europe is a case where they are not sufficient. No military analyst seriously claims that U.S. troops stationed there could repel any large-scale Soviet Conventional attack. In this connection, I would like to quote General Lemnitzer (Commander of SHAPE), who said before the House Foreign Affairs Committee in 1970, "One of the greatest problems that would confront NATO today would be a large conventional attack. Then we would be faced with a decision to use nuclear weapons or be defeated."

This is an astonishing admission. If these troops cannot prevent nuclear war, they are of no use to us or to Europe in providing a so-called "flexible response". Or, if only the threat of nuclear weapons keeps the Soviet Union from grabbing Western Europe, then the troops are not necessary. We may be able to re-assure ourselves that in the event of war we might keep the use of tactical nuclear weapons to an acceptable minimum, but such an acceptable minimum in this case would mean the complete destruction of Europe.

The military uselessness of our troops in Europe is an open secret. The Pentagon seeks to fill the absence for military justification by pointing to political considerations such as demonstrating 'commitment'. But first of all, such political judgments should and must be made by Congress—not by negotiations between our military bureaucracy and the military of other countries. The officials in the Pentagon are professionally trained to make military judgments, not political ones, and their political opinions should be given no more weight than the opinion of any other well-informed participant with a vital personal stake in the matter.

Secondly, I have yet to understand how this meaningless military commitment to Europe adds up to a meaningful political commitment. Perhaps it shows a commitment to solving European balance-of-payments problems at the expense of ours, but I, for one, do not feel justified in asking the American people to subsidize their West European economic competitors.

Because whatever the result of these negotiations, we are going to be locked into those levels for a long time to come (besides the fact that these talks promise to be even slower than the Vietnamese peace talks). I think we have a responsibility to our taxpayers and to our

young men to *act*, to make sure our force levels in Europe are as low as possible.

We will definitely not be hurting our negotiators by acting on our own initiative. We have been assured time-after-time by the Pentagon that the Soviets want *all* our troops out. Since the Soviets have the advantage right now in strategic positioning for conventional warfare, the negotiations will revolve around multiples in any event—it will not be a one-to-one reduction in troop levels. Therefore, to substantially lower our level of troops—especially where they are no threat to the Soviets or to anyone else, such as SETAF (Southern European Task Force)—would help our economic and moral strength without damaging our security in any way.

My amendment puts new, stringent limits on the manpower authorizations of the services, lowering these by a total of 322,000 men and women. In calculating the economic benefits of this withdrawal, we should remember that these men will be taking their dependents back with them also. Added to this is a limit of 300,000 overseas military personnel effective by June 30, 1974. I believe the method of the Committee should be to ask in each case, "What treaty commitment obligates this amount of troops? What military mission justifies this amount of troops?" And where the Pentagon can give us no answer to these questions, we should be repared to retrench.

RONALD V. DELLUMS.

MINORITY VIEWS OF HONORABLE PATRICIA
SCHROEDER (D-COLO.)

I wish to record my objections to specific programs in this bill because I believe they are ill-advised, wasteful and unnecessary to our national defense.

One item which I believe should be deleted from this bill is the authorization for further construction of the CVN-70 nuclear aircraft carrier. I object to it for the following reasons:

First, our attack carrier fleet is currently and in the foreseeable future more than adequate to meet assigned tasks and threats even under "worst-case" conditions. We will soon have three nuclear carriers in the fleet, not counting CVN-70, and they will stand alone in the world in their size and strength. One of these three carriers has twice the firepower of an old carrier. The Soviet Union, in comparison, has no attack carrier fleet, and what few flattops it is building are limited in their function and pose virtually no threat to our military superiority at sea.

Second, attack carriers such as this contribute only marginally to any realistic, or desirable, mission. They have no strategic role at all. It is a ship in search of a mission. They are highly vulnerable. The Navy justifies their construction on the basis of "power display and projection" and "sea control." Ignoring the questionable wisdom of such mission definitions, and their undesirable foreign policy implications, these jobs can be done better and less expensively by other weapons now deployed or under active development.

Third, this ship will cost nearly one billion dollars, not counting possible cost overruns. The first of five necessary suits of aircraft will cost an additional billion dollars and the essential nuclear support ships a further one billion dollars. Thus, the true cost of this carrier is close to \$3 billion. Under the circumstances, *the cost is just not worth it*, and I believe that this money could be put to better use elsewhere.

To cancel this boondoggle means that we would have to pay whopping termination costs to contractors. The total may reach as high as \$100 million. But I believe it is worth it. After all, it makes good sense to get out if it only costs us three percent of the total project costs. While I would have preferred that our military planners had been sufficiently foresighted not to have drawn us into this mess in the first place, I believe we would be doing everyone a service by stopping the project now, at vast savings to everyone.

Another item which I believe should be deleted from this bill is the request for accelerated work on the Trident weapons system. My objections essentially follow those articulated in a report published by Members of Congress for Peace Through Law.

The current request, I believe, is excessive because the latest available intelligence reports show that Soviet construction of similar ballistic missile submarines has slowed, and that their progress in anti-

submarine warfare techniques has shown no significant improvement. Furthermore, the Navy's proposal to build ten Trident submarines violates by 26 missiles our own agreed limit on such missiles at the SALT I talks.

It appears that the Navy wishes to accelerate this program even in the face of such facts. Its request for \$1.7 billion in FY 1974 is twice the FY 1973 request. The total cost of these ten submarines, at current prices, is \$13.5 billion, which, under such circumstances, is a heavy commitment to make.

Instead of pushing ahead with this weapons system, I believe that the best course to follow for the moment would be to defer for at least one year the decision to accelerate the program. Rather, we should concentrate on backfitting Trident missiles into existing Poseidon submarines. We should also continue our R & D program, give high priority to our SSBN defense program, and support Trident "lead ship" construction plans. This, I believe, is the most prudent course to follow for the moment.

I also hope that restrictions on strategic ASW operations are high on the SALT II agenda, because an agreement in this area would help determine our military needs in this field.

A further item which I believe should be deleted from this bill is the authorization for two DLG(N) nuclear-powered guided missile frigates. I do not believe that the construction of these vessels is necessary. Indeed, they are a colossal waste of money. Within the next two years we will have to appropriate almost one-half billion dollars to complete these frigates.

The two nuclear-powered guided missile frigates will make a total of ten. What the Navy does not tell us, however, is that it will eventually ask for 12 nuclear powered frigates, four each to protect our three nuclear carriers. If the CVN-70 is built, then the Navy will ask for a total of 16.

At an average cost of \$250 million each, we are talking here of eventually committing ourselves to a possible expenditure of \$2.2 billion. I am one who is convinced that the Navy can prosper and flourish with the 35 frigates it has or will have. Obviously, these two additional ships are not vital to our national defense at this time or in the foreseeable future.

The request for these two ships came from Admiral Rickover and was made at the last moment. In fact, the House Armed Services Committee witnessed the rare spectacle of factions within the Navy arguing in public over the merits, and lack of them, of these two ships.

If we allow this authorization to go through on such short notice, with such little debate, with no strong military justification, and with a total one-half billion dollar compulsory finished cost, it will illustrate once more Congress's willingness to prostrate itself before the Pentagon, no matter how frivolous the latter's request.

PATRICIA SCHROEDER.

ADDITIONAL VIEWS OF HONORABLE PATRICIA
SCHROEDER (D-COLO.)

It was with extreme reluctance that I joined the majority of my colleagues on the House Armed Services Committee in voting out the Military Procurement Authorization bill for fiscal year 1974.

My primary objection, aside from specific weapons systems noted in my minority report, centers around what I believe was the deficient manner in which this legislation was prepared. Our national defense program requires more analysis than other aspects of the overall budget, not only because it consumes about 40 percent of our taxes, but because it is presented to our committee by military men rigidly disciplined in what opinions they are permitted to express. This kind of discipline is invaluable on the battlefield, but when it comes to determining national defense priorities and strategies, it can frustrate the work of the committee.

The situation is not helped by the fact that the relatively small staff of the House Armed Services Committee, no matter how good its intentions, cannot adequately cope with a multi-billion dollar weapons procurement program that, I understand, is prepared by some 30,000 Defense Department employees with a huge computer system at their command. Nevertheless, the committee made no effort to supplement its staff, to hire outside authorities or to seek its own computer services. Rarely during the long process of hearings which I attended did the committee, or the staff, make the kind of comprehensive effort to master the separate parts of the program, or even to challenge it as a whole (or in part), that I believe should have been made.

Unfortunately, the committee seemed to prefer spending its time in a cursory review of individual weapons systems—a "once over lightly" approach—simply deleting a bit here and adding a bit there. Some members gave the impression that doing the hard and tedious work of analysis and criticism of our complicated military program is somehow unseemingly, unmilitary—indeed, unpatriotic.

Rarely during all the hearings I attended were the basic assumptions behind many weapons systems ever questioned. Nor was there adequate discussion of basic national security questions which would allow committee members an opportunity to evaluate a particular weapons system with any sense of perspective. The committee often seemed preoccupied with the technology of a particular weapons system—asking whether a weapon was "bigger" or "faster" than the previous model—rather than with the larger long-range perspective of whether or not the weapon was needed in the first place. We are all subject to this fixation with technology but must not let it become our sole area of inquiry.

To me, this preoccupation with "more" and "bigger" and "faster" is dangerous thinking. Those with such a limited vision of our military requirements end up, I believe, doing more harm than good to this country. They are like those French politicians who thought a bigger

Maginot Line would provide more defense. They are like our own nuclear strategists who argue that killing an enemy 15 times over makes us more secure than if we can kill him only five times over. They remind me, to use a non-military example, of those people who believe we would honor George Washington more if we increased the height of his monument.

The committee seemed annoyed, even frightened, of vigorous and open debate. The inordinate use of secrecy is a major weapon to suppress debate. In my brief tenure on the committee it became clear to me that the excessive use of executive sessions, from which the public is barred, and the Pentagon's heavy-handed use of classification stamps, is designed more to keep information from the American public than from any of the country's enemies.

Two examples come to mind of the trepidation with which the committee views the prospect of full and vigorous debate. First, the number of witnesses favorable to the Pentagon's point of view who came before the Seapower Subcommittee, for instance, numbered at least 30, while those critical of the program numbered only two. Generally, the 30 witnesses were seldom pressed and their judgment was rarely questioned. The two critical witnesses, on the other hand, were treated in an indifferent manner and their arguments dismissed by many committee members.

The other example concerns the showing during an open Seapower Subcommittee hearing of the NBC-TV documentary film on the CVN-70 nuclear carrier. Some members of the full committee, not just members of the Seapower Subcommittee, felt sufficient concern over the showing of this film that they put in an appearance to criticize it. By all measures it was a balanced presentation, but senior members castigated it as, and I quote, "a diatribe," "unfair," "snide," "destructive," "damnable" and "poisonous." These are strong words for men who should look at all sides of a question before they decide.

None of this is conducive to opening up the legislative process so that the committee can examine the proposals in a thorough and competent manner. As a freshman member of this committee, clearly I cannot presume to have mastered the intricacies of such a complicated multi-billion dollar bill as this one. But I have observed the process and procedures of the committee sufficiently to believe that they should—indeed, must—be improved.

The committee must welcome open and vigorous debate. Such openness would soon result, I believe, in reestablishing the committee's independence of action and judgment over legislation for which it has responsibility. As it stands now, the committee is not much more than the Pentagon's lobby-on-the-hill.

The refusal to open up committee proceedings is, in fact, a serious mistake because it promotes many unhealthy trends. Some members, for instance, have all but abdicated their critical faculties to the so-called Pentagon "experts;" the vision of many committee members is obscured by the shine of military brass; and there are far too many others who take any criticism at all as a personal affront.

After attending all the hearings I could, after asking questions, listening intently and seeking answers, I confess that I am still somewhat in the dark regarding the weapons systems themselves, their costs, and the role they are and/or should (or should not) be playing in our na-

tional defense program. Part of the blame obviously lies with me, for in retrospect I could probably have dug even a little deeper worked even longer hours, asked even more questions and demanded even more answers. But the bulk of the blame, in my opinion, lies with a hearing process and procedures that restrict debate, stifle criticism and leave unanswered important questions.

The result is a piece of legislation whose implications and true costs no one on the committee, I fear, fully understands.

It is not my purpose here to criticize the integrity and sincerity of individual members. Many spent long hours listening and reviewing the testimony that was presented. There are other members of the committee, both senior and junior, whose experience and judgment I respect and cherish. My criticism is directed solely to the procedures and practices of the committee, and the debilitating side effects, which I am convinced deter the committee from doing its job properly.

The ideal situation, in my opinion, would be one in which all hearings were adversary in nature. As I see it, the military should present its case, and the committee should receive it with considerable skepticism. The questioning should be sharp and the debate free and open. It should be permitted for written questions to be submitted for the military to answer. It would be healthy for the committee to hear differing opinions within the military establishment itself, as we witnessed briefly (and no doubt by accident) when factions within the Navy clashed openly in hearings on the 8th and 12th of June over a request for two additional DLGN's. Indeed, it should be the policy of the Pentagon to encourage open and public debate within its own ranks. Having its program accepted each year should be a trial by fire for the Pentagon rather than the cakewalk which it is today.

The ideal would include requiring all written testimony at least three days in advance so that our time is not wasted having the witness read it to us. Perhaps more hearings should be held so that we could spend more time understanding and examining the proposals. We would also benefit from the use of more staff, outside consultants and the use of computers. Instead of acquiescing to the military, the House Armed Services Committee should take the lead, as it did in the case of the nuclear Navy.

Reasonable men—and women—should be able to differ not only philosophically but on the means we seek to achieve a common goal. I believe that opening up the procedures and letting in the cleansing light of criticism and debate will not only enhance the committee's stature but even produce superior legislation. Indeed, the development and maintenance of a strong, flexible and healthy military defense program require that this be so.

PATRICIA SCHROEDER.

CHANGES IN EXISTING LAW

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, there is herewith printed in parallel columns the text of provisions of existing law which would be repealed or amended by the various provisions of the bill as reported.

EXISTING LAW

THE BILL AS REPORTED

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—PROCUREMENT

SEC. 101. Funds are hereby authorized to be appropriated during the fiscal year 1974 for the use of the Armed Forces of the United States for procurement of aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, and other weapons as authorized by law, in amounts as follows:

Aircraft

For aircraft: for the Army, \$181,000,000; for the Navy and the Marine Corps, \$2,958,300,000; for the Air Force, \$2,739,100,000: *Provided*, That \$172,700,000 of the funds available to the Air Force for aircraft procurement shall be available only for the procurement of twelve F-111F aircraft.

Missiles

For missiles: for the Army, \$574,200,000; for the Navy, \$680,200,000; for the Marine Corps, \$32,300,000; for the Air Force, \$1,573,200,000.

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Naval Vessels

For naval vessels: for the Navy, \$3,788,200,000, of which sum \$79,000,000 shall be only for the long-lead-time items for the DLGN-41 and DLGN-42. The contracts for advance procurement for the DLGN-41, DLGN-42 shall be entered into as soon as practicable unless the President fully advises the Congress that their construction is not in the national interest.

Tracked Combat Vehicles

For tracked combat vehicles: for the Army, \$193,300,000; for the Marine Corps, \$46,200,000.

Torpedoes

For torpedoes and related support equipment: for the Navy, \$219,900,000.

Other Weapons

For other weapons: for the Army, \$44,700,000; for the Navy, \$41,900,000; for the Marine Corps, \$700,000.

TITLE II—RESEARCH, DEVELOPMENT, TEST,
AND EVALUATION

SEC. 201. Funds are hereby authorized to be appropriated during the fiscal year 1974 for the use of the Armed

Forces of the United States for research, development, test, and evaluation, as authorized by law, in amounts as follows:

For the Army, \$2,031,686,000;
For the Navy (including the Marine Corps), \$2,675,300,000;
For the Air Force, \$3,110,811,000; and
For the Defense Agencies, \$504,000,000, of which \$24,600,000 is authorized for the activities of the Director of Test and Evaluation, Defense.

TITLE III—ACTIVE FORCES

SEC. 301. For the fiscal year beginning June 1, 1973, and ending June 30, 1974, each component of the Armed Forces is authorized an end strength for active duty personnel as follows:

- (1) The Army, 791,627;
- (2) The Navy, 565,912;
- (3) The Marine Corps, 196,363;
- (4) The Air Force, 665,963;

except that the ceiling for any armed force shall not include members of the Ready Reserve of such armed forces ordered to active duty under the provisions of section 673 of title 10, United States Code, members of the Army National Guard or members of the Air National Guard called into Federal service under section 3500 or 8500, as the case may be, of title 10, United States Code, or members of the militia of any State called into Federal service under chapter 15 of title 10, United States Code, or on

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active duty for training. Whenever one or more units of the Ready Reserve are ordered to active duty after the date of enactment of this section, the President shall, on the first day of the second fiscal year quarter immediately following the quarter in which the first unit or units are ordered to active duty and on the first day of each succeeding six-month period thereafter, so long as any such unit is retained on active duty, submit a report to the Congress regarding the necessity for such unit or units being ordered to active duty. The President shall include in each such report a statement of the mission of each such unit ordered to active duty, an evaluation of such unit's performance of that mission, where each such unit is deemed deployed at the time of the report, and such other information regarding each such unit as the President deems appropriate.

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TITLE IV—RESERVE FORCES

Sec. 401. For the fiscal year beginning July 1, 1973, and ending June 30, 1974, the Selected Reserve of each Reserve component of the Armed Forces will be programed to attain an average strength of not less than the following:

- (1) The Army National Guard of the United States, 379,144;
- (2) The Army Reserve, 232,591;
- (3) The Naval Reserve, 116,981;
- (4) The Marine Corps Reserve, 39,735;

(5) The Air National Guard of the United States, 92,291;

(6) The Air Force Reserve, 49,773;

(7) The Coast Guard Reserve, 11,800.

SEC. 402. The average strength prescribed by section 401 of this title for the Selected Reserve of any Reserve component shall be proportionately reduced by (1) the total authorized strength of units organized to serve as units of the Selected Reserve of such component which are on active duty (other than for training) at any time during the fiscal year, and (2) the total number of individual members not in units organized to serve as units of the Selected Reserve of such component who are on active duty (other than for training or for unsatisfactory participation in training) without their consent at any time during the fiscal year. Whenever such units or such individual members are released from active duty during any fiscal year, the average strength for such fiscal year for the Selected Reserve of such Reserve component shall be proportionately increased by the total authorized strength of such units and by the total number of such individual members.

TITLE V—MILITARY TRAINING STUDENT LOADS

SEC. 501. For the fiscal year beginning July 1, 1973, and ending June 30, 1974, each component of the Armed

EXISTING LAW

SEC. 601. (a) Subsection (a) (1) of section 401 of Public Law 89-367 approved March 15, 1966 (80 Stat. 37), as amended, is hereby amended to read as follows:

"(a) (1) Not to exceed \$2,500,000,000 of the funds authorized for appropriation for the use of the Armed Forces of the United States under this or any other Act are authorized to be made available for their stated purposes to support: (A) Vietnamese and other free world forces in support of Vietnamese forces, (B) local forces in Laos; and for related costs, during the fiscal year 1973 on such terms and conditions as the Secretary of Defense may

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Forces is authorized an average military training student load as follows:

- (1) The Army, 89,053;
- (2) The Navy, 75,647;
- (3) The Marine Corps, 27,976;
- (4) The Air Force, 54,904;
- (5) The Army National Guard of the United States, 19,100;
- (6) The Army Reserve, 59,900;
- (7) The Naval Reserve, 15,200;
- (8) The Marine Corps Reserve, 5,600;
- (9) The Air National Guard of the United States, 4,000;
- (10) The Air Force Reserve, 24,300.

TITLE VI—GENERAL PROVISIONS

SEC. 601. Subsection (a) (1) of section 401 of Public Law 89-367 approved March 15, 1966 (80 Stat. 37), as amended, is hereby amended to read as follows:

"(a) (1) Not to exceed \$1,300,000,000 of the funds authorized for appropriation for the use of the Armed Forces of the United States under this or any other Act are authorized to be made available for their stated purposes to support: (A) Vietnamese and other free world forces in support of Vietnamese forces, (B) local forces in Laos; and for related costs, during the fiscal year 1974 on such terms and conditions as the Secretary of Defense may de-

determine. None of the funds appropriated to or for the use of the Armed Forces of the United States may be used for the purpose of paying any overseas allowance, per diem allowance, or any other addition to the regular base pay of any person serving with the free world forces in South Vietnam if the amount of such payment would be greater than the amount of special pay authorized to be paid, for an equivalent period of service, to members of the Armed Forces of the United States (under section 310 of title 37, United States Code) serving in Vietnam or in any other hostile fire area, except for continuation of payments of such additions to regular base pay provided in agreements executed prior to July 1, 1970. Nothing in clause (A) of the first sentence of this paragraph shall be construed as authorizing the use of any such funds to support Vietnamese or other free world forces in actions designed to provide military support and assistance to the Government of Cambodia or Laos: *Provided*, That nothing contained in this section shall be construed to prohibit support of actions required to insure the safe and orderly withdrawal or disengagement of United States Forces from Southeast Asia, or to aid in the release of Americans held as prisoners of war."

(b) Effective April 1, 1972, (1) subsection (a)(1) of section 401 of Public Law 89-367, approved March 15, 1966 (80 Stat. 37), as amended by section 501 of Public Law 92-156 (85 Stat. 427), is hereby amended by deleting "\$2,500,000" and inserting "\$2,700,000,000" in lieu thereof, and (2) section 738(a) of Public Law 92-204 (85 Stat. 716, 734) is amended by deleting "\$2,500,000,000" and inserting "\$2,700,000,000" in lieu thereof.

termine. None of the funds appropriated to or for the use of the Armed Forces of the United States may be used for the purpose of paying any overseas allowance, per diem allowance, or any other addition to the regular base pay of any person serving with the free world forces in South Vietnam if the amount of such payment would be greater than the amount of special pay authorized to be paid, for an equivalent period of service, to members of the Armed Forces of the United States (under section 310 of title 37, United States Code) serving in Vietnam or in any other hostile fire area, except for continuation of payments of such additions to regular base pay provided in agreements executed prior to July 1, 1970. Nothing in clause (A) of the first sentence of this paragraph shall be construed as authorizing the use of any such funds to support Vietnamese or other free world forces in actions designed to provide military support and assistance to the Government of Cambodia or Laos: *Provided*, That nothing contained in this section shall be construed to prohibit support of actions required to insure the safe and orderly withdrawal or disengagement of U.S. forces from Southeast Asia, or to aid in the release of Americans held as prisoners of war."

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SEC. 602. Notwithstanding any other provision of law, no funds authorized to be appropriated by this or any other Act may be obligated or expended for the purpose of carrying out directly or indirectly any economic or military assistance for or on behalf of North Vietnam during the fiscal year ending June 30, 1974.

SEC. 603. None of the funds authorized for appropriation to the Department of Defense pursuant to this Act shall be obligated under a contract entered into after the date of enactment of this Act under any multiyear procurement as defined in section 1-322 of the Armed Services Procurement Regulations (as in effect on September 26, 1972) where the cancellation ceiling for such procurement is in excess of \$5,000,000.

SEC. 604. (a) Chapter 4 of title 10, United States Code, is amended by adding the following new sections after section 137 and inserting corresponding items in the chapter analysis:

"§ 138. Secretary of Defense: Annual authorization of appropriations for armed forces

"(a) No funds may be appropriated for any fiscal year to or for the use of any armed force or obligated or expended for

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CHAPTER 4.—DEPARTMENT OF DEFENSE

* * * * *

§ 137. General Counsel: Appointment; powers and duties

(a) There is a General Counsel of the Department of Defense, appointed from civilian life by the President, by and with the advice and consent of the Senate.

(b) The General Counsel is the chief legal officer of the Department of Defense. He shall perform such functions as the Secretary of Defense may prescribe.

* * * * *

“(1) procurement of aircraft, missiles, or naval vessels;

“(2) any research, development, test, or evaluation, or procurement or production related thereto;

“(3) procurement of tracked combat vehicles;

“(4) procurement of other weapons; or

“(5) procurement of naval torpedoes and related support equipment;

unless the annual appropriation for such funds has been specifically authorized by law in accordance with the provisions of this section.

“(b) Congress shall authorize the personnel strength of the Selected Reserve of each reserve component of the armed forces. No funds may be appropriated for any fiscal year for the pay and allowances of members of any reserve component of the armed forces unless the personnel strength of the Selected Reserve of that reserve component for that fiscal year has been authorized by law.

“(c) (1) Congress shall authorize the end strength, as of the end of each fiscal year for active-duty personnel for each component of the armed forces. No funds may be appropriated for any fiscal year to or for the use of the active-duty personnel of any components of the armed forces unless the end strength for active-duty personnel of that component for that fiscal year has been authorized by law.

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“(2) The Secretary of Defense shall submit to Congress a written report, not later than January 31 of each fiscal year, recommending the annual active-duty end strength level for each component of the armed forces for the next fiscal year, and shall include in that report justification for the strength levels recommended and an explanation of the relationship between the personnel strength levels recommended for that fiscal year and the national security policies of the United States in effect at the time. The justification and explanation shall specify in detail for all forces, including each land force division, carrier and other major combatant vessel, air wing, and other comparable unit, the—

“(A) unit mission and capability;

“(B) strategy which the unit supports; and

“(C) area of deployment and illustrative areas of potential deployment, including a description of any United States commitment to defend such areas.

It shall also include a detailed discussion of the manpower required for support and overhead functions within the armed forces.

“(d) (1) Congress shall authorize the average military training student loads for each component of the armed forces. That authorization is not required for unit or crew training student loads, but is required for student loads for the following individual training categories—

“(A) recruit and specialized training;

- “(B) flight training;
- “(C) professional training in military and civilian institutions; and
- “(D) officer acquisition training.

No funds may be appropriated for any fiscal year for training military personnel in the training categories described in clauses (A)–(D) of any component of the armed forces, unless the average student load of that component for that fiscal year has been authorized by law.

“(2) The Secretary of Defense shall submit to Congress a written report, not later than March 1 of each fiscal year, recommending the average student load for each category of training for each component of the armed forces for the next three fiscal years, and shall include in that report justification for, and explanation of, the average student loads recommended.

“§ 139. Secretary of Defense: weapons development and procurement schedules for armed forces; reports; supplemental reports

“(a) The Secretary of Defense shall submit to Congress each calendar year, at the same time the President submits the budget to Congress under section 11 of title 31, a written report regarding development and procurement schedules for each weapon system for which fund authorization is required by section 138(a) of this title, and for which any funds for procurement are requested in that budget. The report shall include data on operational test-

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ing and evaluation for each weapon system for which funds for procurement are requested (other than funds requested only for the procurement of units for operational testing and evaluation, or long lead-time items, or both). A weapon system shall also be included in the annual report required under this subsection in each year thereafter until procurement of that system has been completed or terminated, or the Secretary of Defense certifies, in writing, that such inclusion would not serve any useful purpose and gives his reasons therefor.

“(b) The Secretary of Defense shall submit a supplemental report to Congress, not less than thirty, or more than sixty, days before the award of any contract, or the exercise of any option in a contract for the procurement of any such weapon system (other than procurement of units for operational testing and evaluation, or long lead-time items, or both), unless—

“(1) the contractor or contractors for that system have not yet been selected, and the Secretary of Defense determines that the submission of that report would adversely affect the source selection process and notifies Congress in writing, prior to such award, of that determination, stating his reasons therefor; or

“(2) the Secretary of Defense determines that the submission of that report would otherwise adversely affect the vital security interests of the United States and notifies Congress in writing of that determination

at least thirty days prior to the award, stating his reasons therefor.

“(c) Any report required to be submitted under subsection (a) or (b) shall include detailed and summarized information with respect to each weapon system covered, and specifically include, but not be limited to—

“(1) the development schedule, including estimated annual costs until development is completed;

“(2) the planned procurement schedule, including the best estimate of the Secretary of Defense of the annual costs and units to be procured until procurement is completed; and

“(3) to the extent required by the second sentence of subsection (a), the result of all operational testing and evaluation up to the time of the submission of the report, or, if operational testing and evaluation has not been conducted, a statement of the reasons therefor and the results of such other testing and evaluation as has been conducted.

“(d) In the case of any weapon system for which procurement funds have not been previously requested and for which funds are first requested by the President in any fiscal year after the Budget for that fiscal year has been submitted to Congress, the same reporting requirements shall be applicable to that system in the same manner and to the same extent as if funds had been requested for that system in that budget.”

(b) The following laws are repealed :

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Section 412 of Pub.L. 86-149, Title IV, Aug. 10, 1959, 73 Stat. 322, as amended by Pub.L. 87-436, § 2, Apr. 27, 1962, 76 Stat. 55; Pub.L. 88-174, Title VI, § 610, Nov. 7, 1963, 77 Stat. 329; Pub.L. 89-37, Title III, § 304, June 11, 1965, 79 Stat. 128; Pub.L. 90-168, § 6, Dec. 1, 1967, 81 Stat. 526; Pub.L. 91-121, Title IV, § 405, Nov. 19, 1969, 83 Stat. 207; Pub.L. 91-441, Title V, §§ 505, 509, Oct. 7, 1970, 84 Stat. 912, 913; Pub.L. 92-129, Title VII, § 701, Sept. 28, 1971, 85 Stat. 362; Pub.L. 92-436, Title III, § 302, Title VI, § 604, Sept. 26, 1972, 86 Stat. 736, 739, provided that:

“(a) The Secretary of Defense shall, on or before January 31, 1960, submit to the President of the Senate and the Speaker of the House of Representatives complete and detailed information with respect to the various types and kinds of aircraft, missiles, and naval vessels being procured by the armed forces of the United States, including the number of each type and kind procured and the cost thereof and the number of each type and kind proposed to be procured and the estimated cost thereof.

“(b) No funds may be appropriated after December 31, 1960, to or for the use of any armed force of the United States for the procurement of aircraft, missiles, or naval vessels, or after December 31, 1962, to or for the use of any armed force of the United States for the research, development, test, or evalua-

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(1) section 412 of the Act of August 10, 1959, Public Law 86-149 (73 Stat. 322), as amended by section 2 of the Act of April 27, 1962, Public Law 87-436 (76 Stat. 55); section 610 of the Act of November 7, 1963, Public Law 88-174 (77 Stat. 329); section 304 of the Act of June 11, 1965, Public Law 89-37 (79 Stat. 128); section 6 of the Act of December 1, 1967, Public Law 90-168 (81 Stat. 526); section 405 of the Act of November 19, 1969, Public Law 91-121 (83 Stat. 207); sections 505 and 509 of the Act of October 7, 1970, Public Law 91-441 (84 Stat. 912, 913); section 701 of the Act of September 28, 1971, Public Law 92-129 (85 Stat. 362); and sections 302 and 604 of the Act of September 26, 1972, Public Law 92-436 (86 Stat. 736, 739); and

(2) section 506 of the Act of November 17, 1971, Public Law 92-156 (85 Stat. 429).

This Act may be cited as the “Department of Defense Appropriation Authorization Act, 1974”.

tion of aircraft, missiles, or naval vessels, or after December 31, 1963, to or for the use of any armed force of the United States for any research, development, test, or evaluation, or after December 31, 1965, to or for the use of any armed force of the United States for the procurement of tracked combat vehicles, or after December 31, 1969, to or for the use of any armed force of the United States for the procurement of other weapons, or after December 31, 1970, to or for the use of the Navy for procurement of torpedoes and related support equipment unless the appropriation of such funds has been authorized by legislation enacted after such dates.

“(c) Beginning with the fiscal year which begins July 1, 1968, and for each fiscal year thereafter, the Congress shall authorize the personnel strength of the Selected Reserve of each Reserve component of the Armed Forces; and no funds may be appropriated for any fiscal year beginning on or after such date for the pay and allowances of members of any Reserve component of the Armed Forces unless the personnel strength of the Selected Reserve of such Reserve component for such fiscal year has been authorized by law.

“(d) (1) Beginning with the fiscal year which begins July 1, 1972, and for each fiscal year thereafter, the Congress shall authorize the end strength as of the end of each fiscal year for active duty per-

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sonnel for each component of the Armed Forces; and no funds may be appropriated for any fiscal year beginning on or after such date to or for the use of the active duty personnel of any component of the Armed Forces unless the end strength for active duty personnel of such component for such fiscal year has been authorized by law.

"(2) Beginning with the fiscal year ending June 30, 1972, the Secretary of Defense shall submit to the Congress a written report not later than January 31, of each fiscal year recommending the annual active duty end strength level for each component of the Armed Forces for the next fiscal year and shall include in such report justification for the strength levels recommended and an explanation of the relationship between the personnel strength levels recommended for such fiscal year and the national security policies of the United States in effect at the time. Such justification and explanation shall specify in detail for all forces, including each land force division, carrier and other major combatant vessel, air wing, and other comparable unit: (A) the unit mission and capability, (B) the strategy which the unit supports, and (C) the area of deployment and illustrative areas of potential deployment, including a description of any United States commitment to defend such areas. Such justification and explanation

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shall also include a detailed discussion of the manpower required for support and overhead functions within the Armed Services.

“(e) (1) Beginning with the fiscal year which begins July 1, 1973, and for each fiscal year thereafter, the Congress shall authorize the average military training student loads for each component of the Armed Forces. Such authorization shall not be required for unit or crew training student loads, but shall be required for student loads for the following individual training categories: recruit and specialized training; flight training; professional training in military and civilian institutions; and officer acquisition training; and no funds may be appropriated for any fiscal year beginning on or after such date for the use of training any military personnel in the aforementioned categories of any component of the Armed Forces unless the average student load of such component for such fiscal year has been authorized by law.

“(2) Beginning with the fiscal year ending June 30, 1973, the Secretary of Defense shall submit to the Congress a written report not later than March 1 of each fiscal year recommending the average student load for each category of training for each component of the Armed Forces for the next three fiscal years and shall include in such report justification for and explanation of the average student loads recommended.”

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PUBLIC LAW 92-156—NOV. 17, 1971 (85 STAT. 429)

SEC. 506. (a) Beginning with the calendar year 1972, the Secretary of Defense shall submit to the Congress each calendar year, at the same time the President submits the Budget to the Congress pursuant to section 201 of the Budget and Accounting Act, 1921, a written report regarding development and procurement schedules for each weapon system for which fund authorization is required by section 412(b) of Public Law 86-149, as amended, and for which any funds for procurement are requested in such budget. Beginning with the calendar year 1973, there shall be included in the report data on operational testing and evaluation for each such weapon system for which funds for procurement are requested (other than funds requested only for the procurement of units for operational testing and evaluation and/or long lead-time items).

A weapon system shall also be included in the annual report required under this subsection in each year thereafter until procurement of such system has been completed or terminated, or until the Secretary of Defense certifies in writing that such inclusion would not serve any useful purpose and gives his reasons therefor.

(b) A supplemental report shall be submitted to the Congress by the Secretary of Defense not less than thirty nor more than sixty days before the awarding of any contract or the exercising of any option in a contract for the

procurement of any such weapon system (other than procurement of units for operational testing and evaluation and/or long lead-time items) unless (1) the contractor or contractors for that system have not yet been selected, and the Secretary of Defense determines that the submission of such report would adversely affect the source selection process and notifies the Congress in writing, prior to such award, of such determination, stating his reasons therefor, or (2) the Secretary of Defense determines that the submission of such report would otherwise adversely affect the vital security interests of the United States and notifies the Congress in writing of such determination at least 30 days prior to such award, stating his reasons therefor.

(c) Any report required to be submitted under subsection (a) or (b) of this section, as the case may be, shall include detailed and summarized information with respect to each weapon system covered by such report, and shall specifically include, but shall not be limited to—

(1) the development schedule, including estimated annual costs until development is completed;

(2) the planned procurement schedule, including the best estimate of the Secretary of Defense of the annual costs and units to be procured until procurement is completed;

(3) to the extent required by the second sentence of subsection (a) of this section, the results of all operational testing and evaluation up to the time of the submission of the report, or, if operational testing and evaluation has not been conducted, a statement of

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the reasons therefor and the results of such other testing and evaluation as has been conducted.

(d) In the case of any weapon system for which procurement funds have not been previously requested and for which funds are first requested by the President in any fiscal year after the Budget for such fiscal year has been submitted to the Congress, the same reporting requirements shall be applicable to such system in the same manner and to the same extent as if funds had been requested for such system in such Budget.

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